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Publisher and Proprietor, Rochester, N. Y.

THE WOOL-GROWING INTEREST.

FOR some reason, not very obvious, the Wool-growing Interest has received small attention in this country in comparison with that of cotton, tobacco, wheat, corn, or common dairy husbandry. Even some who profess to make wool-growing a special study, have misjudged to the amount of about thirty million pounds, as to the annual clip in the United States, which produce but a trifle over fifty million pounds in the aggregate. This is about equal to the annual export of wool from the comparatively new British province of Australia.

There is good reason to believe that the manufacture of broadcloths has diminished fifty per cent. in the last five years; while the importation of broadcloths has increased over *one hundred per cent.* In 1849, the value of woolens imported was $13,503,202; in 1853, it was $27,621,921. In 1848, we imported 11,381,429 pounds of wool; in 1853, our importation had increased to 21,595,070 pounds. We now annually import in wool and woolen fabrics not far from one hundred million pounds of wool a year. One estimate before us, made by a gentleman of large experience in the manufacture of wool, makes the annual consumption of foreign wool 112,742,000 pounds. This is twice as much as is grown in the United States. By the tariff of 1846, foreign blankets are admitted at an *ad valorem* duty of twenty per cent.; while the manufacturer who would make good blankets out of imported wool has to pay thirty per cent. duty on his raw material—giving a premium in favor of the foreign manufacturer of blankets of ten per cent.! While the high duty on imported wool, and comparatively low duty on wool in a manufactured state, repress home industry and build up foreign manufactures, they have signally failed to encourage the production of more than a third of the wool which the country really needs. These are facts of great importance; and it is high time that all wool-growers understood them. If they cannot more than one-third supply the wants of the country with wool, and it is, consequently, compelled to import woolen goods to the amount of nearly thirty million dollars a year, the time is not remote when the people will demand the free importation of the raw material from which their necessary clothing is so largely fabricated. What say you, wool-growers, to this? Many of you and your families consume not a little cloth made in Europe out of foreign wool. Are you ready and willing to give up all protection to the wool markets of the United States by government? To foster the manufacture of woolen goods in your own country, will you retain 25 per cent. duty on foreign woolens, and permit the raw material to come in duty free? This is what the manufacturers desire. If you are to have no protection on the production of wool, should the manufacturers of the article fare any better? If free trade is good for the farmer, can it be less advantageous to the mechanic?

The importation of foreign wool into Britain was free, until 1802, when it was subjected to a duty of 5s. 3d. per cwt. This was gradually raised, until in 1813 it was fixed at 6s. 8d., and in 1819, the prohibitory rate of 56s. per cwt., or about 12c. per pound. Under this system, the woolen manufacturers languished, and in 1824–5 the duty was reduced to a halfpenny per pound for medium and coarse, and one penny for fine. Under this nominal rate, such an impulse was given to the woolen business, and consequently to the value of the home product, that all fear of trouble from competition was given up, and under the present tariff all descriptions of wool are admitted duty free.

In sending to South America, Australia, and the Mediterranean, cargoes of breadstuffs, tobacco, and other staples, our ships have not full freight homeward bound, and might bring wool to good advantage, if all grades were exempt from duty; and, as in England, vast quantities would be imported by capitalists to be spun and woven for re-exportation and

foreign consumption. Our vast water-power, cheap coal, and cheap living for those that operate machinery, give us great advantages for the manufacture of both woolen and cotton goods for all nations less advanced in the arts than ourselves. Numerous manufacturing towns will afford valuable markets for our breadstuffs, provisions, vegetables, fruits, lumber, firewood, and whatever else the earth may produce.

In past years, we have said and written not a little in behalf of government aid to the wool-growing interest; but we are now constrained to admit, in view of reliable official statistics, that wool is likely to be grown cheaper on the immense pampas of South America, in Australia, and other tropical and semi-tropical regions, than our farmers appear to be willing to grow it for home consumption. When mutton shall be as permanently valuable here as it is in England, then wool may be produced as an incidental crop, at a cheap rate. The flesh of sheep now sells high, and its production deserves increased attention.

TRANSACTIONS OF THE RHODE ISLAND SOCIETY.

By the favor of the Secretary, Stephen H. Smith, Esq., we are in possession of the *Transactions of the Rhode Island Society for the Encouragement of Domestic Industry, in the year* 1853, a neat pamphlet of 134 pages, which we have read with pleasure. The income of the Society is about $6,000 per annum, of which $4,485 were derived last year from admission tickets to the Fair; and the balance from dividends on bank stock and fees for membership. The Society has productive property to the amount of nearly $20,000—a feature worthy of all commendation, for it secures stability and confidence in its operations.

Agriculture, Horticulture and Manufactures, appear to be equally fostered by this Association. The cow that took the first premium was reported to give 1,900 pounds of milk in 30 days, being an average of 63⅓ lbs. per day. This is certainly a large yield, but signifies very little, because we are not told how much food was consumed to form these 1,900 lbs. of milk. For aught that appears to the contrary, the cow may have given less milk, or less butter and cheese, for the food eaten, than others offered in competition.

The Committee offer the following suggestions, which will apply to other Societies as well as to the one in question:

"The Committee would draw the attention of the Society to the principal condition on which the premiums can be claimed, viz., the amount of milk produced during any four successive weeks. The object of the premium is, no doubt, to effect the improvement of our stock by rewarding those who have obtained the greatest results. A cow which yields the most milk within a given month, may not necessarily be the best milch cow; that is, may not give the greatest aggregate amount of milk during the year. The best cow is that which yields the most milk or butter, not for a week or a month, but for the whole year, and this is the fact which every body considers in buying a cow. Many a cow may be urged by high feeding to a large production of milk for a limited period, and yield comparatively little afterwards. Mr. Evans was clearly entitled to the highest premium, but the Committee would have been gratified to know the quantity of milk given by his cow during the whole year. We think the object in view would be better accomplished by changing the present requisite, so that the premium shall be awarded for the greatest aggregate amount of milk given during a year, or between the two last calvings. And the quantity should be determined by carefully measuring it at every milking, and recording the amount. The food of the cow should also be stated more definitely than it has been heretofore. All this would require some attention, no doubt, and therefore we would have the premium considerably larger than the present; say, twenty dollars."

We insist on the point that the value of a cow depends less on the aggregate yield of milk per day, month or year, than on the relation that exists between the food consumed and its product. A small cow that costs comparatively little, may be more profitable, although yielding considerably less than a large cow, than the latter.

Among the disbursements of the Society, we notice an item of $122 paid Prof. Mapes for a single address delivered before the Association last Autumn. As the address is short, we have perused it in the expectation of finding something worthy of being copied into this Journal. The following remarks taken from page 25, may interest some of our readers:

"Most of you know that a pound of iron in the form of a hollow cylinder will sustain a greater weight resting on its end than if the same amount of iron were presented in a solid rod, and this may explain why the bones of animals are hollow, and particularly those of the bird, which has the power to inflate its bones with air, so as to give them strength by being so filled when combatting their enemies; and to *withdraw this air with pleasure when desiring to fall rapidly through the atmosphere.*"

The idea of making hollow, cylindrical bones *heavier* by having air pumped out of them, is original if not instructive. It is not pretended that the walls of these bones collapse by the atmospheric pressure that surrounds them; so that a bird "falls rapidly through the atmosphere" by the great weight of a vacuum formed in its cylindrical bones for that purpose! As increased gravity in the bird depends on its forming an empty space in its solids, so it "combats its enemies," not by the physical power of its muscles and the natural strength of its earthy bones as other animals do, but by the *air* forced into the cavities of its bones!

On page 29 the learned "Professor" informs his readers that "The valley of the Mohawk, the Genesee Valley, and other localities long celebrated for their wheat crops, have ceased to be profitable wheat growing districts."

Every writer on American agriculture who has put confidence in the statements of Mr. Mapes as to the wheat crops of the Genesee country, has been deceived, and misled his readers. This was particularly the case with Prof. Johnston, who published a work in England on his return home from the United States. Yesterday a farmer who resides in this vicinity, informed us that a nine acre field yielded him at

the last harvest an average of 42 bushels per acre, which crop he had recently sold at $2 a bushel; giving him $84 per acre for the wheat of a single season. Allowing $14 to cover every expense, and keep the soil good, with the aid of the straw and the growth of clover after harvest, and the net income per acre is $70, or 7 per cent. on a valuation of *one thousand dollars per acre!* The six New England States put together do not grow over two-thirds as much wheat as one county in the Genesee Valley.

TRANSACTIONS OF THE ESSEX COUNTY (MASS.) AGRICULTURAL SOCIETY FOR 1853.

Essex County contains some of the most intelligent and skillful farmers in the United States; and we always look to the annual Report of the doings of its old and flourishing Agricultural Society with full confidence that we shall find something both interesting and instructive. We are indebted to the Hon. John W. Proctor for a copy for 1853; to whom, with Messrs. Newel and Dodge, (the President and Secretary of the Society,) Massachusetts is largely indebted for her agricultural advancement. This County Society expended last year $882 in premiums —a larger sum we believe than any other County Society paid out in agricultural premiums. It has a good library, open to all its members, and productive funds to the amount of $9,336. Such an institution is as useful to the public, as it is creditable to the farmers of old Essex. Let the owners of the soil in every county in the Union do likewise.

Farmers in Massachusetts have to contend with a generally barren soil, often overlaid with rocks and stone, sometimes inundated by swamps or springs, and occasionally the land is a mass of compact intractable clay. With all these evils Mr. Crosby had to contend; and with what cheerfulness and success he applied his energies to the task, the reader may judge:

Josiah Crosby's Statement.—"In calling your attention to my farm, I feel some reluctance in consequence of the very prevalent idea among farmers, that none but large and decidedly model farms should be considered worthy of a premium. But notwithstanding this opinion, experience and observation have taught me that small farms declare the largest relative dividends, and in corroboration of this statement, I could, if my limits would permit, cite many instances of farms in this county, containing ten or twelve acres, that are made to produce annually a larger net income than others containing one hundred acres.

"In conformity with these views, I have ventured to offer my humble farm for a premium, destitute as it is of all such pleasing associations as 'paternal acres,' 'ancestral oaks,' or 'venerable mansions,' handed down from former generations; and I present my claim only upon the ground that he is a benefactor who makes two blades of grass to grow, where but one grew before. I will endeavor briefly to convince you that this much I have done.

"I purchased my farm in the spring of 1841; it then contained about thirty acres, one half of which was completely covered with bushes. My first move was to commence an open warfare upon these 'cumberers of the ground.' For awhile they resisted manfully, and seemed to bid defiance to our attacks; but after a hard-fought battle, we found ourselves at last in full possession of the field. This field is now the best part of my farm, and is capable of producing two tons of English hay to the acre; but at the time I commenced work upon it, it would not have afforded subsistence for a solitary cow.

"The other half of the farm at the time of my purchase, was a strong and rich, but cold soil, and for want of sufficient draining and manuring, it produced but scanty crops. It has been partially drained and had a liberal supply of manure. It is now in a good state of cultivation and produces large crops, but is yet susceptible of great improvement.

"I have made several additions to my first purchase, and the farm now contains about sixty acres, all of which (with the exception of sixteen acres of woodland) is in a high state of fertility, and with a little additional draining and manuring, will compare favorably with any similar number of acres in the county.

"I have built a barn and cellar 56 by 38 feet, with sheds, carriage-house, piggery, poultry yards, &c., attached, which have cost about $1,700; I have entirely remodeled and repaired my dwelling-house, at an expense of about $2,500; I have built a small greenhouse, with a cellar and well, for raising foreign varieties of grapes, which has cost about $160; I have made 200 rods of substantial stone wall, and have dug 350 rods of drains; I have set out about 300 fruit trees, comprising the choicest varieties of apples, pears, peaches, plums, cherries and apricots; I have hauled at least 500 loads of sand a distance of a mile and a quarter, which has been spread upon the land, and is now thoroughly incorporated with the soil, and has changed the character of it, preventing it from baking or cracking during severe drouths, and causing the crops to start much earlier in the spring; I have paid out in cash for manures about $500, and have made various other minor improvements on the farm.

"But, as I have before stated, I do not enter my farm for a premium on account of its magnitude, or as being a model farm on a small scale; neither do I claim any superior mode of cultivation, but simply on the ground that I have taken it in a miserably dilapidated and worn-out condition, and have put it in such a state that it will compare favorably with a majority of the farms in our county.

"The following statement will show the comparative condition of the farm when purchased, and as it now is:

Produce of Elm Vale Farm in 1841, say about five tons of hay, worth	$75 00
Produce of the same for the year 1853.	
25 tons English hay, at $20,	$500 00
3 " Squashes, at $40,	120 00
25 bushels Onions, at 60 cents,	15 00
350 " Potatoes, at $10,	350 00
2500 heads Cabbages, at 60 cents,	15 00
60 bushels Oats, at 60 cents,	36 00
40 bushels Corn, at $1,	40 00
25 barrels Apples, at $3	75 00
Tomatoes, Cucumbers, Melons, Green Corn and Peas,	35 00
Cherries, Pears, Peaches, Quinces, &c.	25 00
Pork fatted mostly upon milk and refuse potatoes, and apples,	90 00
Calves,	18 00
	$1,454 00

"No account is made of butter and milk, garden vegetables, fruit, &c., used in the family.

Original cost of the farm,	$2,900 00
Cost up to the present time about	10 00
Farm expenses for 1853,	516 00

"ELM VALE FARM, North Andover."

THE BREEDING AND REARING OF HORSES.

THERE is no part of the world where the breeding and rearing of good horses will pay a better profit than in the Southern States. No inconsiderable share of the best animals are now imported from the North at a high expense, after paying high prices to the producers. This fact is known to most of our readers, while the cheapness of land at the South, and the facility with which suitable food for horses may be grown, will not be questioned. Some have thought that the climate of the cotton-growing States is too warm for the health and highest constitutional developments of the equine genus. To refute this notion, it is enough to refer to the horses of Arabia and ancient Egypt. The horse belongs to the thick-skinned order of mammalia, having the elephant and rhinoceros as congeners; and he flourishes best in warm climates, as the vast droves of wild horses in Central Africa, South America, and Asia, sufficiently attest. Judging from the best lights of comparative anatomy, natural history and geology, we think that Africa is the native *habitat* of the horse, and not the steppes of Central Asia, as has been suggested by HUMBOLDT and PALLAS. Perhaps no man living is so good authority on the origin and geographical distribution of animals as Professor AGASSIZ, whose lectures for several terms we heard at the Smithsonian Institute, and recently a course in the city of Rochester.

Egyptian monuments leave no room for doubt that the horse was domesticated in the valley of the Nile indefinite ages before any history of which we have any knowledge was written. The earliest allusion to the horse is an incidental mention of *mules* in the Mosaic notice of ANAH, the son of ZIBEON, and a cotemporary of ISAAC; and the earliest express mention of him records that "JOSEPH gave the Egyptians bread in exchange for *horses*, and for flocks, and for the cattle of the herds, and for the asses." The earliest evidence that the horse was broken for the saddle or ridden, occurs in JACOB's benediction on his sons—"Dan shall be a serpent in the way, an adder in the path, that biteth the horse's heels, so that his *rider* shall fall backward."

"Horses and Chariots figure largely in the early written history of our race; and one of the most effective and beautiful passages in Job is his graphic description of the war-horse. The Rev. JOHN M. WILSON, of Edinburgh, says that "the word 'thunder' in our common English version of the passage is wrong, and must be substituted by the phrase 'beautiful mane.'" He adds, "whoever has observed the effect of a spirited horse's mane at a moment of excitement, will appreciate the allusion to it."

"Hast thou given the horse his strength? Hast thou clothed his neck with his beautiful mane? Canst thou make him afraid as a grasshopper? The glory of his nostrils is terrible. He paweth in the valley and rejoiceth in his strength. He goeth on to meet the armed men; he mocketh at fear and is not affrighted; neither turneth he back from the sword. The quiver that rattleth against him, the glittering spear and shield; he swalloweth the ground with fierceness and rage; neither believeth he that it is the sound of the trumpet. He saith among the trumpets Ha! ha!—and he smelleth the battle afar off, the thunder of the captains and the shouting."

When the children of Israel left Egypt, "PHARAOH took six hundred chosen chariots, and all the chariots of Egypt, and captains over every one of them; and the Egyptians pursued after the children of Israel—all the horses and chariots of PHARAOH, and his horsemen and his army."

SOLOMON had 1,400 chariots and 12,000 cavalry. In the land of the Fig and the Olive, the horse has attained his highest developments; and his cultivation at the South should no longer be neglected. Start with a determination to provide a full supply of suitable forage, summer and winter. The most serious impediment in the way of rearing horses in the cotton-growing districts, is the want of cheap food for their daily consumption. This want, however, arises more from neglect than from any other cause. Sainfoin, lucerne, lupins, vetches, peas, beans, and grasses, may be grown as cheaply at the South as in any part of Europe, Asia, or Africa. It only requires attention, care, and moderate industry, to secure feed enough for a good stock of horses.

No other cultivated plant probably contributes so much to the growth of horse flesh in this country as Indian corn; and the climate of the Southern Atlantic States is best adapted to the prolific growth of this cereal grass. If the soil is defective in some places, let it be carefully studied, and the defects removed. YOUATT truthfully teaches his readers that soft water is much better for horses to drink than hard lime-stone water. It so happens that the writer has had excellent opportunities to study the water consumed by persons and domestic animals, both in freestone and limestone districts. Horses and cattle uniformly prefer rain water in limestone regions, wherever it can be found on the ground, to that which has passed through the earth and become impregnated with salts of lime, as it appears in brooks, springs, and wells. A little lime, however, has never, to our knowledge, done either horses or neat stock any harm. Nor should our remarks be construed as bearing against the use of common salt. The salts dissolved out of earths, which when in excess are injurious to animals, man included, are gypsum (sulphate of lime), alum (sulphate of alumina and potash), and copperas (sulphate of iron). Carbonate of lime, held in solution by free carbonic acid, and chlorids of lime, magnesia and iron, may exist in excess. We are acquainted with farms on which well water contains epsom salts enough to physic persons and cattle not accustomed to it. Men and horses ought to have tolerably pure water, although in extensive districts both drink water that abounds in many foreign bodies.

Too little attention has been paid to the anatomy and physiology of the horse, and to his ailments, by men of science, in this country. Our professional

"horse-doctors" are too often as ignorant as they well can be; and we should gladly see something done to elevate and improve this department of useful knowledge. Unfortunately, anatomy, physiology, and the diseases of animals, are dry reading for the masses, so that we are virtually forbidden to do more than allude to these important topics. And yet anatomy and physiology form the only reliable basis for the successful crossing and treatment of any race of animals. The horse has a small stomach, and may be reared from its mother's milk to subsist mainly, if not exclusively, on flesh. The Tartars have a race of war horses hardly less ferocious than tigers. "Their keepers," says Sir R. KERR PORTER, "always sleep on their rugs among them to prevent accidents; and sometimes, notwithstanding all this care, and that of tying up their heads with double ropes, and fettering their heels to fastenings in the ground, they manage to break loose, and then the combat ensues. A general neighing, screaming, kicking and snorting soon rouses the grooms, and the scene for a while is terrible. Indeed, no one can conceive the sudden uproar of such a moment, who has not been in eastern countries to hear it; and then all who have must bear me witness that the noise is tremendous. They seize, bite, and kick each other with the most determinate fury; and frequently cannot be separated before their heads and haunches stream with blood. Even in skirmishes with the natives, the horses take part in the fray, tearing each other with their teeth, while their masters are in similar close quarters on their backs." The best varieties of the Persian horse for both strength and elegance, occur in Kurdistan. Horses of the best blood in the world may be constitutionally ruined by treating them as ladies treat their pet lap dogs. They become smooth lumps of fat, with feeble bones and feebler muscles, as a basis for it to rest upon. Some run into the opposite extreme, and half starve their breeding mares and foals, partly under the idea of hardening them, but mainly from sheer penuriousness. There are some American farmers who breed and rear first rate horses, as almost any city will demonstrate, if its best "turnouts" be examined; but ninety-nine in one hundred of our horses indicate some material defect that art and science should have prevented.

Farmers must learn to prevent those errors in husbandry which all know to exist. It is usually many times easier to avoid a misfortune or evil, than to suffer its consequences. Unless we try to improve our domestic animals, their deterioration is inevitable. The difference between a valuable colt and one comparatively worthless, often depends on the difference in their keeping, and the way they are broken to the saddle and harness. If Northern horses have superiority over Southern, it is mostly due to the manner in which they are reared, trained and handled when young. They need very little grain before they are four years old, but good grass in summer, and good hay or fodder in winter, with pure water, and a plenty of exercise. Corn fed colts become clumsy, dull, stumbling and stupid. It is better to feed them pea hay with the peas in, or oats in the bundle, than corn in the ear. A little corn fed regularly we do not regard as objectionable, where oats or peas are not at hand and one has not good hay. We have had some experience in breaking colts as well as steers, and know the importance of having these operations wisely performed. They should not be delayed until young animals obtain their growth, and the impress of an incurable wildness. Early and gentle handling always cultivates docility and kindness, mingled with a cheerful habit and willing disposition. These prompt a laboring horse or ox to do all he reasonably can with spirit and confidence. Any working animal is half ruined when his confidence in himself or master has departed. Encouragement, wielded with discretion and an even temper, often works wonders, where animals are well fed, well housed, and never beaten. Punishment is sometimes necessary, but such cruel floggings as poor animals have been made to suffer within our recollection, are most injurious and inexcusable.

THE HYGROSCOPIC POWER OF SOILS.

THE power of cultivated earth to extract moisture from the atmosphere, presents a most inviting field for critical research in connection with the growth of agricultural plants. Before stating our own doubts and difficulties in the matter, we shall invite the reader's attention to the views and experiments of Sir HUMPHREY DAVY, which throw much light on the subject. He says: "The power of the soil to absorb water by cohesive attraction, depends in a great measure, upon the state of division in its parts; the more divided they are, the greater is these absorbent powers. The power of soils to absorb moisture from air is connected with fertility; *when this power is great, the plant is supplied with moisture in dry seasons*, and the effect of evaporation in the day is counteracted by absorption of aqueous vapor from the atmosphere by the interior parts of the soil during the day, and by both the interior and exterior during the night. The stiff clays, approaching to pipe clay in their nature, which take up the greatest quantity of water when it is poured upon them in a fluid form, are not the soils which absorb most moisture from the atmosphere in dry weather; they cake and present only a small surface to the air, and the vegetation on them is generally burnt up almost as readily as on sands. The soils most efficient in supplying plants with water by atmospheric absorption, are those in which there is a due mixture of sand, finely divided, clay and carbonate of lime, with some animal and vegetable matter, and which are so loose and light as to be freely permeable to the atmosphere. With respect to this quality, carbonate of lime, animal and vegetable matter are of great use in soils—they give absorbent power to the soil, without giving it likewise tenacity; sand, which also destroys tenacity, on the contrary gives it little absorbent power. I have compared many soils as to their absorbent powers, with respect to atmospheric moisture, and I have always found it greatest in the most fertile soils, so that it affords one method of judging of the productiveness of land. One thousand parts of a celebrated soil from Or-Miston, in East Lothian, which contained more than half its weight of finely divided matter, of which eleven parts were carbonate of lime, and nine parts of vegetable matter, when dried at a temperature of 212 degrees, gained in an hour by exposure

to an air saturated with moisture at a temperature of 62 degrees, eighteen parts; 1,000 parts of a very fertile soil from the banks of the river Parret, in Somersetshire, under the circumstances, gained 16 parts; 1,000 parts of soil from Mersea, in Essex, worth 45 shillings [rent] per acre, gained 13 parts; 1,000 parts of a fine sand from Essex, worth 28s. an acre, gained 11 parts; 1,000 parts of a coarse sand, worth 15s. per acre, gained only 8 parts; 1,000 parts of a soil of bag-shot heath, gained only 3 parts."

Other experiments, which will be quoted hereafter, indicate a wide difference in the hygroscopic power of different soils; and Sir H. DAVY leaves no room for doubt that he regards this absorbed moisture as being within the control of plants to be imbibed by their roots, circulated through their tissues, and evaporated from their leaves. CUTHBERT W. JOHNSON, and other writers of distinction, express similar opinions; but having recently raised the question of fact, whether water drawn from the atmosphere by the absorbent power of soils can be taken from these soils and given back to the atmosphere again by growing plants, we have as yet found no experiments which prove the soundness of this popular idea. We put the question to Professor HOSFORD, in Cambridge University, in this wise: Why should not a soil that is endowed with strong absorbent powers draw moisture from the green and watery roots of plants, as well as from a dry atmosphere? Such an atmosphere draws moisture rapidly from leaves of plants, as may be seen when those of corn curl up in July and August, from excessive evaporation beyond the supply of water at their roots. Does Nature operate in so limited a circle as to have the moisture that ascends from a soil through the roots and stems of plants, and passes out into the air through their leaves, *re-absorbed* from the air by the dry soil, to be again conveyed through the circulation of the plant as before?

We seriously doubt the truth of this theory; and after stating the objections to it in a hygroscopic point of view, Professor HOSFORD (who was some years with LIEBIG) agreed with us that the annals of science furnish no satisfactory evidence that plants do extract hygroscopic water from the earth, and give it out to the atmosphere to be again absorbed by the earth for the use of the same, or other plants. If our growing crops can avail themselves of water absorbed from the air both night and day, as Sir H. DAVY teaches us to believe, the fact may be demonstrated by direct experiments. Such experiments ought to be made.

Like fertile soils, plants have the power to imbibe moisture from the atmosphere; but to what extent is not known; nor is the circulation of fluids through their cells and vascular systems well understood. A dry atmosphere, especially when leaves are under the influence of direct rays of the sun, takes moisture from plants very rapidly. But does this evaporation from the surface of plants render their roots more hygroscopic than the soil which surrounds them, or the atmosphere that permeates such soils?

Dr. HALES ascertained that a cabbage transmits into the atmosphere about half its weight of water daily by insensible vapor; and that a sunflower, three feet in height, transpired in the same length of time, nearly two pounds weight; but there is no evidence that any of this water drawn from the earth was hygroscopic. The soil not only retains water that falls in showers and heavy dews with great tenacity for the uses of vegetation, but it draws water from the subsoil by capillary attraction from a very considerable depth, under favorable circumstances. Dr. WOODWARD found that a sprig of mint, weighing 27 grains, emitted 2.543 grains of water in 77 days; a sprig of common night-shade, weighing 49 grains, evolved in the same length of time 3.708 grains. M. SAUSSURE proved by direct experiment, that plants may double the organized carbon in their tissues without any mold to grow in, or connection with the earth. Indeed, the hanging moss that grows so abundantly in cypress swamps at the South, must derive the whole of its carbon from the carbonic acid in the atmosphere. The luxuriant growth of this moss on the limbs and twigs of trees, illustrates an important law of vegetable nutrition. While we question the power of any soil to extract moisture from what would be regarded as a moderately dry atmosphere, in any quantity available to the circulation of plants, we see little reason to doubt the power of a saturated atmosphere so to dampen a fertile soil as to enable it to feed, like a damp cloth, the roots of plants. When the air is cooled down to the dew point, and water begins to be precipitated, it is important to have the soil in the utmost hygroscopic condition to augment the amount of fertilizing dews it may nightly condense within its cells or pores. Dews are nothing more than little showers; and so far as they yield water at all, it should be husbanded by the cultivator with great care.

Intimately connected with the natural function of soils to absorb water from the atmosphere, is the inquiry: How much water does a corn, wheat, cotton, or other agricultural plant, really need to have pass through its circulating system, from the first sprouting of the germ to the perfect maturity of the crop? We have devoted some attention to this inquiry, and find that the poverty and richness of the soil govern the amount of water needed to produce profitable crops of grain, roots, cotton, tobacco and sugar cane. If we mistake not, this is the law: The more fertile the soil the less water it needs to yield an abundant harvest. Mr. LAWES found by careful experiment, that a poor soil required over three thousand grains of water to pass through the stem of a single wheat plant, to convey one grain of the *ash* or minerals in such plant, from the soil to its destination in the plant. We will give the figures that bear upon this question as they may be found in the thirteenth volume, second series, of the GENESEE FARMER, page 79. The soil in each case being alike, Wheat required 3111.2 grains of water to evaporate from its leaves for one grain of ash deposited in the plant, from March 19 to September 7.

Barley required a smaller quantity of water to attain a similar result, viz.:	2618.8	grains.
Beans still less, or	2289.5	"
Peas	2527.3	"
Clover	1884.2	"

It is obvious to every reasoning mind that the poorer the soil the more diluted must be the food which it yields to hungry plants, and the larger the amonnt of water that must enter their roots and evaporate from their leaves to supply the needful ali-

ment. Hence, rich soils may, and do give large crops in a season characterized by a scarcity of rain, which prove fatal to all crops growing, or attempting to grow, on poor lands. These facts are adduced to show the importance of ceasing to impoverish good soils, and of trying to enrich poor ones. The neglect of the latter soon bring them into a condition that forbids any quantity of rain, however advantageously distributed, to give full crops.

Manures as well as soils absorb moisture from the atmosphere very unequally. In the *Edinburgh Quarterly Journal of Agriculture*, CUTHBERT W. JOHNSON gives the following as the results of his experiments:

"One thousand parts of horse-dung dried at a temperature of 100 degrees, absorbed, by exposure for three hours to air saturated with moisture, at 62 degrees, 145 parts; 1,000 parts of cow-dung, under the same circumstances, absorbed 130 parts; 1,000 parts of hog-dung absorbed 120 parts; 1,000 parts of sheep-dung absorbed 81 parts; 1,000 parts of pigeon's-dung absorbed 50 parts; 1,000 parts of a rich soil worth two guineas per acre [rent] absorbed 15 parts."

Subsoil plowing has done much to improve the hygroscopic power of soils, and to bring up the mineral food of plants from the earth below. Deep and thorough tillage, however, does more by increasing the aliment of crops available to the cultivator than by absorbing water from the atmosphere; and while lime is known to be attractive of moisture, and thereby increase the hygroscopic capacity of soils, as stated by Sir HUMPHREY DAVY, yet we suspect that this mineral benefits growing plants still more by its chemical agencies, and nutritive properties. However it may operate to augment fertility, certain we are that its use for agricultural purposes is largely on the increase in this country.

THE HOG.

ALLOWING the hogs kept in the United States to be worth an average of only three dollars a head and their aggregate value is one hundred million dollars. This is a large amount of money to be invested in one species of quadrupeds; and especially in a race of animals so much neglected as the hog. As a people, Americans are remarkably fond of swine's flesh; but we cannot say that they delight in the wise and economical improvement of the race from which this kind of meat is obtained. Scientific breeders who have investigated the subject, find the varieties and sub-varieties of the domesticated hog more numerous than those of the human family. The English Rural Cyclopedia describes a distinct breed, like the Berkshire, Suffolk, Woburn, Dishley, Hampshire, Essex, &c., for nearly every county in the kingdom. The existence of some twenty or thirty different breeds of hogs, with perfectly developed peculiarities in each, in so small a country, proves two things: First, the perfect susceptibility of domesticated swine to assume extreme variations in anatomical structure, as to the size and shape of its bones, small or large abdomen and chest, small and short or large and long legs and ears, and a disposition to fatten or otherwise, as well as an aptitude to come early to maturity, or to live on like the elephant, and never attain to anything more than a worthless mass of bones, gristle, lungs and intestines. Second, it shows that, in past ages, the rural districts of England have had the least possible intercourse with each other; for the same intercommunication between the farmers of different counties that exists in this country would prevent the formation of twenty distinct breeds of hogs or sheep, within two or three hundred miles of each other, in the same State. One may travel from Maine to California, through the United States, and not find so marked a difference in the language of the people as is met with among the peasantry of adjoining counties in Great Britain. Devon cattle, South Down sheep and Suffolk pigs, are historical monuments of great significance. Had half the care been bestowed on the improvement of the laboring classes of England which her horses, dogs, sheep, and swine have received, Britons might boast of the universal education that prevails on their densely peopled Island.

It is a curious fact, that nearly all of the native hogs of western and southern Europe have been advantageously crossed with the Chinese or Siamese hog, imported within the last two hundred years. It is the quiet blood of the long domesticated swine of the East, now common in Siam, China, Australia, and the Cape of Good Hope, that has improved the hogs of England, France, Italy, Central Europe, and the United States. In the twelfth century, wild boars were hunted in the immediate vicinity of London; and the vigorous blood of those powerful animals prevails in some parts of the Island with slight if any deterioration. The wild boar of Europe is a most ferocious beast, and some of the race when half domesticated, attained a prodigious size. The largest family of swine now known in England are doubtless improved descendants of these lords of ancient Briton, where men and hogs subsisted mainly on acorns and other products of the forest. Wilson says that "the Rudgwick hog often weighs seventy or seventy-two stones when two years old." A stone is sixteen pounds; so that the mammoth Rudgwick hog (the largest in Briton) weighs from eleven to twelve hundred pounds. Our author does not give the Suffolk breed a high character; although his account is as favorable as we could write from what we have seen of this last importation of English pets. He says:—"The Suffolk hog is a small and somewhat delicate animal; and attains an average weight of from 16 to 19 stones. Its hair is short and very bristly; its forehead is broad; its back is narrow; its belly is pendent; its legs are high; and its general form is more sluggish than that of the Norfolk hog. It seems to possess a large inter-mixture of the white Chinese breed, and has been for a considerable period in somewhat high estimation; yet *it eats a comparatively vast quantity of food, and is by no means a kindly or economical feeder.*" (See Rural Cyclopedia, volume 2, page 664, article Hog.)

One should select a breed of hogs with reference to the abundance of grain and other food he may have for their consumption; and also with reference to the kind of meat he wishes to produce. Market hogs designed for packing as pickled pork, or for making bacon, need to be of good size, having length, depth, and breadth of carcass. For this purpose,

the China hog is quite too small; and most of the Berkshires and Suffolks imported into this country partake too largely of the Chinese race to meet the wants of large hog raisers in the United States. If one has a poor range for swine, and is in a district where corn is raised with difficulty, large hogs and gross feeders are to be avoided, for their meat is likely to cost more than it will sell for. A small, thrifty breed, that will come early to maturity, is best for general use, where a farmer makes pork or bacon, or both, for home consumption. If any number of hogs are to be kept, it is important to give them a good pasture in spring, summer and autumn, if not in winter. For this purpose, a piece of swamp ground well set in grass pays remarkably well. Good feed, access to pure water, salt, and shelter from rain and snow, form the basis of successful swine-breeding. It is bad economy to permit large herds to run together. Divide your stock into lots of not more than fifty or sixty, if practicable. Neither lice nor flees are apt to trouble hogs that have sulphur mixed with their salt. Many mix wood ashes either with the salt or ood of their fatting hogs, and find the alkali beneficial. Lye or pearlash water is better than raw ashes to correct acidity of the stomach when it occurs. At the South it is especially important not to crowd hogs to closely in small lots or pens. Peas, oats, barley, sweet potatoes, turnips and carrots may be grown for the feeding of hogs, as well as corn, grass, figs, mulberries, and other fruit.

The period of gestation in sows is one hundred and twelve days; and they readily produce two litters of pigs in a year. This power of reproduction is of great importance to the farmer, who is able to turn it to a profit by selling pigs when from one to eight months old. All young animals give much more flesh for any given quantity of nutritive matter consumed than adults. Hence, pigs are rarely kept in England over a year, except for breeding purposes. A stunted pig rarely recovers from the shock its system has sustained, and one should be careful not to attempt to rear and fatten more hogs than his food will keep to the best advantage. The same amount of corn that will yield 300 lbs. of meat fed to three animals, will produce 350 lbs. if fed to two. The truth and philosophy of this statement many farmers either do not understand, or sadly overlook. Before any animal can add one grain to its weight of flesh, a considerable share of its daily food necessarily goes to form its so called animal heat, and to replace every element in its organized system removed by the absorption of the previous twenty-four hours of living processes. Bones, muscles, and all internal viscera, are constantly giving off effete atoms and taking new ones of the same chemical and physiological nature, to renovate the living machine. To *grow* and to *fatten* imply the organization, and deposition in the animal tissues, of more atoms than before existed therein. This calls for an excess of aliment, which excess or surplus, beyond what the system daily parts with, thousands of thoughtless husbandmen fail to supply to young domestic animals, which want to grow and wax fat, but being unwisely restricted in food, they cannot. They are stunted, and injured nature furnishes the owner with a small lump of meat for the food eated.

HOW MUCH CHARCOAL WILL ONE HUNDRED POUNDS OF WOOD MAKE?

Until we had an opportunity to read the accurate experiments of M. Mushet, determining the yield of coal from different quantities of various kinds of wood, we had greatly over estimated the product of this valuable fuel. Of all the common woods, dry chestnut yields the most coal; it being 23.2 per cent. Oak yields next highest, or 22.6 per cent. Beech, maple and Norway pine yield 19.9 per cent. Elm 19.5 per cent.; Scotch pine only 16.4 per cent.

From the above facts it appears that full four-fifths of the dry solids in wood are burnt away and lost in the making of charcoal; nevertheless, we think that 20 pounds of coal derived from 100 of wood are worth more for warming a room, heating iron, or generating steam, than 20 pounds of any wood. Viewed in all its economical aspects, fire is an expensive agent; and it is very far from being maintained to the best advantage.

Probably not more than half the farmers in the United States avail themselves of the economy of using well seasoned wood for household consumption. In the Northern States, where snow lies on the ground six months in a year, and it is sometimes coid enough to freeze mercury, good wood-houses, filled with seasoned wood and coal are quite common. There are from one to two thousand pounds of pure water in a cord of green fire-wood, which has to be converted into steam or vapor, if green wood be burnt, involving a prodigious loss of heat. Season all fire-wood before burning it, if possible.

FIRE-FANGED MANURE.

The season of the year has arrived when stable manure is prone to fire-fang—a chemical change that lessens its value from fifty to sixty per cent. To prevent such a loss is an object of much importance in farm economy, and we will endeavor to explain the subject in a way that will render it plain to all interested in providing food for plants.

Few are ignorant of the fact that a mass of dung thrown from a stable, and particularly that from horses and mules, is apt *to heat*, and sometimes it proceeds to spontaneous combustion. This heating is not injurious, if only moderate in degree, for it always precedes and attends fermentation, whether vinous or putrefactive. The latter is what the skilful farmer desires to increase the solubility of manure; for Nature *rots* vegetable and animal substances to prepare their elements for reorganization in the cells of living, growing plants. Fire-fanging is a peculiar chemical operation analagous to burning wood into coal, or charring hay or straw by imperfect combustion. It not only checks putrefactive fermentation in a manure heap, but drives off in a gaseous state all the nitrogen and ammonia it may contain. Half burnt dung and straw (fire-fanged manure) refuses to ferment, rot, or dissolve for the nourishment of crops, for a long time after it is buried in tilled ground. Hence, it is not too much to say that a farmer who allows his dung-heaps to fire-fang, really loses nearly three-quarters of the value of the same, and often more than that.

How one can best prevent this excess of heating,

is the point now to be considered. It is done simply by spreading the manure over a greater surface, not so thin as not to heat at all, nor ferment, but thicker or thinner according to the weather and the nature of the manure. To adopt the language of farmers, some excrements are of a more heating nature than others; and no one rule will apply to every condition and composition of the dung heap. It should not, however, be long exposed to the open air, rain and sunshine, but be covered over with loam, clay, or vegetable mould. In this state Scotch farmers call their dung-heaps "pies;" the covering of earth being the upper-crust, and one of clay or leaf-mould being the under-crust. The right management of these "pies" is quite as difficult as the management of a coal-pit, or burning brick-kiln. All air must not be excluded, for that would arrest decomposition. To learn the condition of the mass, the farmer sticks a stake into it, which being drawn out, he learns from the steam, gases, and temperature of the air that issues, how his pie is baking. If the heat is too great, the heap should be forked over immediately to cool it, as you would close the draft in a coal-pit, a lime or brick-kiln. If water is convenient, make stake holes into the heap and pour water into them, just enough to put out the latent fire below.

To avoid all loss and labor of this kind, we prefer to haul most of our manure in a raw, unfermented state, into the field, spread and plow it at once, and let it rot in the soil. This course is not always practicable, and the dung has to be preserved in some form for future use. To have it rot, and at the same time decompose a good deal of corn-stalks, straw and forest leaves, mixed therewith, and lose nothing of its volatile elements, is the end to be aimed at.

OPERATIONS FOR JUNE.

Mr. Editor:—June has come and with it the seed time of many of the present backward season. Every moment is now of value, and let every stroke and effort tell. Hay, corn, wheat—in fact, all the agricultural productions of the country, have brought higher prices than for years before, and we see no reason why they should much diminish in value, while the demand for the European market shall continue.

Will it not be worth your while to have as great a surplus of those crops as possible, by bestowing more attention to root crops as a means of winter feed for your stock? The turnip is a very important element in English husbandry; and though our climate may not be so well adapted for that particular root, yet have we not an equivalent in the sugar beet, carrot, parsnip and mangel wurtzel? On ground properly prepared, the yield of any one of the roots mentioned, may be safely estimated at from 500 to 800 bushels. The writer once raised thirty-nine bushels of mangel wurtzel on four and one-half square rods of ground, or at the rate of nearly fourteen hundred bushels to the acre.

To raise roots to advantage the soil must be in good condition and thoroughly pulverized—no clods or lumps being left to mar the straightness of your rows, or interfere with the sowing of the seed.

Supposing that you devote an acre to roots, it will pay well to get a seed drill. The saving of time, seed, and exactness in planting, together with increased facility for after cultivation, will much more than balance the outlay.

Soak your beet or wurtzel seed in lukewarm water for forty-eight hours, and sow in drills sixteen inches apart on freshly tilled land. When up and fairly growing, thin to from four to six inches apart. Most who commence the study of roots, err in not giving them space to grow. Keep clear of weeds, which can mostly be done with the hoe. Soon as their broad leaves have fairly developed themselves, you need bestow but little care upon them, save to stir the soil in time of drouth.

Potatoes, once our surest crop, now in many sections are a very uncertain one. Those have had the best crops generally within the last few years, who have planted on a light, loamy soil, not highly manured. When the *rot* became so prevalent and destructive a few years past, the editor of this paper surmised among other speculations that the disease in question might be owing to an exhaustion of the elements of the plant and tuber in the soil. Several experiments during the past year in different parts of the country, have satisfactorily shown that planted in moderately fertile ground, and as soon as above the ground, well dusted with a handful of ashes and plaster to each hill, and the same application repeated when about to flower, there will be but little of the rot.

It is an unsettled question, whether large or small seed potatoes will give a greater return. We would be much obliged to our friends who feel interested in this matter, if they would try experiments, and report the result when the crop is gathered.

You will find that to plant your corn in drills from three and a half to four feet apart, the stalks from six to nine inches apart in the rows, and to thoroughly work the ground with the cultivator, without hilling, or at least but very slightly, will give you equally as large a return as if you had carefully hilled your corn, thereby throwing the moisture away from the plants.

Have you provided good rakes and implements wherewith to facilitate the securing of your hay and grain crops? Pitching hay on to a high mow is hard work and warm work too in a hot day, and it requires but a slight expenditure of time and means to provide fixed and movable pulleys, with a rope and suitable fork, by which your load can be lifted and deposited on your mow, by a horse or your team, with no expenditure of manual labor. To make farming attractive, study to introduce machinery as far as practicable, for human help is the dearest of all.

Peas for fattening your hogs may be sown at any time before the middle of the month. They are an excellent preparation for wheat, and leave the ground in a very friable condition. If you have not yet plastered your clover, do not fail of doing so; also your peas and corn.

It will pay well to have your boys thoroughly weed your grain fields by hand; "one year's seeding makes seven years weeding," and clean fields should be your pride. If you have a spot of canada thistles or dock on your premises, give them no peace or rest from your plow as often as they show themselves above the ground. A thorough fallowing of weedy ground, followed by hoed crops the ensuing season, will almost

entirely remove the nuisance. If you cannot plow them up, mow them often, and by no means let them go to seed.

Have your compost heap or place convenient for the same, and deposit there every thing susceptible of decay, it hardly matters what—weeds, turf, loam, muck, straw, chips, &c., and let your hogs turn it over and mix it; wet it with soap-suds, urine, &c., and you will find the summer's accumulation of much value for the ensuing spring crops. Yours, &c.,

CULTOR.

ROCKY MOUNTAIN FLAX.

MR. EDITOR:—If you think the following worthy of a place in your valuable journal you are at liberty to insert the same. I know of no plant which seems to better deserve an effort for its introduction into the class of cultivated crops, than the above named. The common flax plant is an annual; it is exposed to the depredations of many insects; and to get the full amount of the crop, it is necessary it should be pulled; and yet, with all these drawbacks, it is a valuable crop, and indispensable for many purposes. If a plant possessing the same valuable qualities as the common flax, and perennial, and cradled or mown at maturity, thus giving an annual succession of crops from the same root, could be discovered and brought into use, particularly in the fertile valleys and prairies of the Western States, the advantages would be very great. Such a plant is the flax of the Rocky Mountains; and the individual or the society that shall introduce it into cultivation, should it answer present indications, will be considered as essentially benefitting the agriculture of the country. Of the various notices which I have seen of this plant, I select the following as most particularly describing its appearance and the extent of its growth in those regions. Mr. PARKER, in his excellent narrative of his journey across the Rocky Mountains, from the Mississippi to the Pacific, says: "Flax is a spontaneous production of this country. In every thing except that it is perennial, it resembles the flax that is cultivated in the United States—the stalk, the bowl, the seed, the blue flower, closed in the day time and open in the evening and morning. The Indians use it in making fishing nets. Fields of this flax might be managed by the husbandman in the same manner as meadows for hay. It would need to be mowed like grass, for the roots are too large and run too deep into the earth, to be pulled as ours is; and an advantage that this would have is, that there would be a saving of plowing and sowing." This was on a branch of Lewis or Snake River. In a late journal of a passage across these mountains, by Mr. OAKLEY, of Illinois, under date of the 21st of July, 1839, occurs the following: "Encamped to-night in a beautiful valley, called Bayou Salard, twenty-eight miles from the head of the South Fork of the Platte. It is a level prairie, thirty miles long and three wide, and covered with a thick growth of flax, which every year springs up spontaneously."

Whether the Rocky Mountain Flax will prove to be as near the common flax as is supposed by Mr. PARKER, may be doubted; but that it is unlike and far superior to the two or three kinds of native wild flax that have before been discovered in the United States, would also seem to be clear. A tract of ninety square miles of flax, such as Mr. OAKLEY described, would be a sight in any country, and would rival the grass covered prairies of Illinois.

Now, in relation to it being superior to any of the wild flax in the United States, is, I think, a mistake, for I have recently discovered a lint on the Butterfly-weed, also called silk-weed and pleurisy root, *(Asclepias Tuberosa,)* that surpasses any thing that I have seen in strength of fibre, belonging to that family of vegetables. If the variety described by Mr. PARKER is in any way superior to the silk-weed, it is in height, and not in the strength of the lint, for that cannot *be*, and in all probability it is the same plant, as Mr. TUCKER seemed to doubt the description of Mr. PARKER, and that he had only seen the nets and lines that the Indians used, and guessed at the rest. There are two kinds of this plant, one is found in uplands, and the other in low sandy river or tributary valleys, and sandy plains, corresponding exactly to the location which Messrs. PARKER and OAKLEY have mentioned, and it is also a perennial; and there is very little difference in the appearance of the two, both growing from two to five feet high. In an open exposure to the sun they grow from two to three feet high, with a thick stalk, and branching out most profusely at the top, and when they grow in a shaded situation and thick on the ground, they often attain the height of five feet, with a smooth, straight stalk, and but few branches at the top. (For a general description of this plant see *U. S. Dispensatory*, p. 127.) It propagates from seed, then spreads at a rapid rate under the ground, coming up in every direction, which would greatly aid the process of propagation. I have transplanted some roots this Spring, to ascertain whether they would bear transplanting, and if so, the variety peculiar to low lands might be advantageously cultivated on barren, sandy ground, or otherwise, while the other could be cultivated on land peculiar to it; thus giving us a natural advantage of a great scope of country for cultivation, and at the same time be producing a great medical plant as well as one of the most durable lints in the world, which you will perceive by the specimens I have sent you. No. 1 is a section of a stalk with the fibre on the same, and also the lint and a cord of two others, which were collected March 20th, 1854, that grew in the year 1852, and which had been out all that lapse of time exposed to the inclemency of the weather, without destroying its lint, hence you will see the great utility of this fibre in making cables and other goods that are exposed to the weather. From the fineness and whiteness of it, I believe the best linen might be made of it. No. 2 is a section of two stalks and the lint of two others stripped off, and a cord twisted by hand; it grew last year and stood out till the 5th of the present month. You will also perceive that the stalk is hollow, which would render it easy of being broke with the flax break or machine, and the shove easily dispensed with.

Medical Properties and Uses.—The root of Asclepias Tuberosa is diaphoretic and expectorant, without being stimulant. In large doses it is often also cathartic. In the Southern States it has long been employed by regular practitioners in catarrh,

pneumonia, pleurisy, consumption, and other pectoral affections; and appears to be decidedly useful if applied in the early stages, or after sufficient depletion, when the complaint is already formed. Its popular name of pleurisy-root expresses the estimation in which it is held as a remedy in that disease. It has also been used advantageously in dysentery and acute rheumatism, and might probably prove beneficial in our autumal remittents. Much testimony might be advanced in proof of its possessing very considerable diaphoretic powers. It is said also to be gently tonic, and has been popularly employed in pains of the stomach arising from flatulence and indigestion; from twenty grains to a drachm of the root in powder, may be given several times a day. But as a diaphoretic it is best administered in decoction or infusion, made in the proportion of an ounce to a quart of water, and given in the dose of a teacupful every two or three hours till it operates.

Before concluding, I would ask whether you or any of your readers ever knew of this plant producing lint, and if so, whether it has ever been cultivated for that purpose; if not, I think it worthy of a fair trial both for its lint and medical uses, by some of the Agricultural Societies. I shall, however, report my success the coming season.

Yours, very truly, S. A. Ellis.

Roscoe, Coshocton Co., O.

FLAX-CULTURE IN OHIO.

Mr. Editor:—Having been a subscriber to your valuable paper for the last two or three years, I do not recollect of seeing anything in regard to the cultivation of *flax seed*. In this section of the country, this staple of produce is pretty extensively cultivated for the manufacturing of oil. In the year 1852, there were raised in this county 136,000 bushels of flax seed, according to the returns of the assessor. Last year there was a great failure of the crop, owing to the great drouth in the fore part of the season. I presume there was not more than one-third of a crop on an average. Now, sir, there is a great difference of opinion among our best farmers, whether the cultivation of *flax* is more injurious to the ground than *oats*. My principal object in writing this, is to request that you, or some of your numerous correspondents, would analyze the flax and oats, in their different stages of growth, and ascertain what properties they draw from the earth. Our soil here is quite varied. You can seldom find a field of twenty acres with one kind of soil. Some of it is a stiff clay, some a loose clay, and some of it a dark loamy soil, with a little sand mixed with it. In the last mentioned soil, it generally requires under-drainage before it can be much used, for in the spring of the year it is very wet.

There are also other differences of opinion in regard to this crop. Some contend that the wheat crop which generally follows the flax, is not as good—while others say that they have raised just as good wheat on flax ground as on oats. Others say that they cannot raise two crops of flax in succession on the same ground—while others contend that they have done so. Now, sir, if you or any other person could test the matter by any chemical experiments, it would not only gratify, but benefit a large number of farmers in this section of country.

If you think it is worth publishing, I will give you a brief account of the mode in which it is done here. In the first place the ground is plowed between the 6th and 20th of April, or soon after oats are sown. It is then harrowed with a heavy harrow, and the ground pulverized as much as possible. The seed is then sown at the rate of *three pecks* per acre—more than this it is considered would be too thick for it to *branch* well, or less would be considered as not thick enough. After it is sown, go over the ground again with a harrow or large brush. If there should happen to be a heavy rain before it can be harrowed or brushed after the seed is sown, nothing need be done with it, for the rain will beat the seed in the ground sufficient to sprout it. I have raised just as good a crop after the rain has beat it in the ground as if it had been harrowed. As soon as a large majority of the *bolls* begin to turn brown, commence cutting it with a cradle, taking out the third and fourth fingers in order to make it as light as possible. Cut it so that two swaths will come together—in other words, make a *double winrow* in all cases where it can be done. This will enable the team to pass between them and not run over it. There is no necessity of laying the straw straight like wheat or oats. After it has lain on the ground some three or four days, (owing a good deal to the dryness of the weather,) the thrashing can be commenced. This is done by trampling it with horses on the barn floor. One or two hands go to the field after a load, while one or two stay in the barn with the horses. If the flax is very dry, it can be thrashed out as fast as it can be hauled in. In the morning, we have to wait until the *dew* is off, for if it is damp in the least, it takes a long time to trample it out. I generally arrange it so as to leave a flooring on the floor over night, and by the time the dew gets off in the morning, I have that flooring trampled out. It will not do to leave the load on the wagon over night, for it will commence sweating; and if the morning should happen to be foggy or damp, it will take until the middle of the day to get it out clean. When we get some 40, 50, or 60 bushels on the floor, we commence cleaning in a windmill—generally running it through twice. Some farmers who have a good deal of barn room, haul it in and mow it away, and thrash it in the winter.

There is very little use made of the straw in this neighborhood; some burn it, and some stack it in their barn yards and let their cattle nibble at it in the winter and trample it into manure. I am told that in the county south of us, the farmers sell it to the paper makers at a good profit; but they have to trample it more, in order to get as many of the shieves out as possible. I have never seen any of the paper made from the flax tow, but I presume the time will soon come when it will be baled up like cotton, and sent to the Eastern States to be manufactured into paper. I am yours, &c., J. G. Fanning.

Eaton, Preble Co., Ohio.

The spirit of the world encloses four kinds of spirits, diametrically opposed to charity. The spirit of resentment, spirit of aversion, spirit of jealousy, and the spirit of indifference.

HOW TO CAPONIZE FOWLS.

THE practice of the French country-women is to select the close of the spring, or the beginning of autumn, as well as fine weather, for the performance of their work. The parts necessary to be removed, being fixed in the abdomen, and attached to the spine at the region of the loins, it is absolutely necessary to *open the abdominal cavity* for the purpose of their extraction. The bird should be healthy, fasting, and about three months old. He is then to be secured by an assistant, upon his back, his belly upwards, and his head down, that the intestines, &c., may fall up toward the breast; the tail is to be towards the operator. The right leg is then carried along the body, and the left brought backward and held in this position, so as to leave the left flank perfectly bare, for it is there that the incision is to be made. The said incision is to be directed from before to backwards, traversely to the length of the body, at the middle of the flank, and slightly to the side, between the ends of the breast-bone and the vent. Having plucked away the feathers from the space where it is intended to make the incision, you take a bistoury or a razor, and cut through this skin, abdominal muscles and peritoneum; it is better to do this at two or more cuts, in order to avoid the possibility of wounding the intestines—a casualty that would, in most cases, be attended with fatal results. The intestines present themselves at the orifice, but you must not suffer them to come out; on the contrary, you press them gently aside, so as to have room for action. I may observe, that the incision should have been sufficiently large to admit of the fore-finger previously well oiled, being passed into the abdomen, and carried carefully towards the lumbar region of the spine; you will there find what you are in search of. You first reach the *left* substance, which you detach with your nail, or with your finger bent hook-fashion; you then arrive at the right, which you treat similarly; bring both substances forth; you finally return the intestines, sow up the wound with a silk thread—a very few stitches will suffice—and smear the place with a little fresh butter. Some persons recommend the amputation of the comb, close to the skull of the newly-made capon; but this is surely an unnecessary piece of torture—a useless addition to the sufferings of the poor bird. The proposed object of this amputation is to insure the recognition of the capon amongst his co-mates of the poultry-yard. Were such a distinctive mark necessary, it strikes us that the operation must have been, so to speak, thrown away; inasmuch as the superior size and bulk of the capon should, of themselves, be sufficiently indicative of his identity; but independent of these, I may observe that the *comb* of the capon does not grow to any size, and always retains a *pallid* color. Should it be proposed to caponize cocks belonging to varieties not naturally possessing combs, it will surely be found, at the very most, sufficient to cut the tail feathers down to a stump. In some parts of the continent, the caponizers resort to still more unnecessary brutality. They cut off the spurs of the poor caponized bird, and making an incision in its comb, as it were *plant* them in it; they are so held for about twenty minutes—in short, just until the blood coagulates; they then become not merely permanently adherent, but actually *grow*. The less, however, said about these very, and needlessly inhuman practices, the better.

To return to our more immediate subject: The process having been performed as above described, the bird is placed in a warm house, *where there are no perches*, as, if such appliances were present, the newly-made capon might very probably injure himself in his attempts to perch, and perhaps even tear open the sutures, and possibly occasion the operation, usually simple and free from danger, to terminate fatally. For about a week, the food of the bird should be soft oatmeal porridge, and that in small quantities, alternated with bread steeped in milk; he may be given as much pure water as he will drink, but I recommend that it be *tepid*, or at least, that the *chill* be taken off it. At the end of a week, or, at the farthest, ten days, the bird, if he has been previously of a sound, vigorous constitution, will be all right, and may be turned out into the walk common to all your fowls.—*Richardson.*

DENWOOD,

THE RESIDENCE OF JOHN J. SMITH, ESQ., GERMANTOWN, PA., NEAR PHILADELPHIA.

THE private residence of which we give a drawing, presents some peculiarities of construction and interior division, which we have thought might prove a useful study to those who are about to build.

It is a complete *rus in urbe;* the kitchen being *in* the village, and the opposite or piazza side, facing the northeast, for summer afternoon shade, overlooks the country, with a fine belt of trees within a suitable distance. The amount of ground attached is two acres, but we observed that it is filled with the most valuable hardy trees and shrubs, imported and domestic. Among the former will be found a collection of Hollies and Rhododendrons—two important but much neglected families of plants.

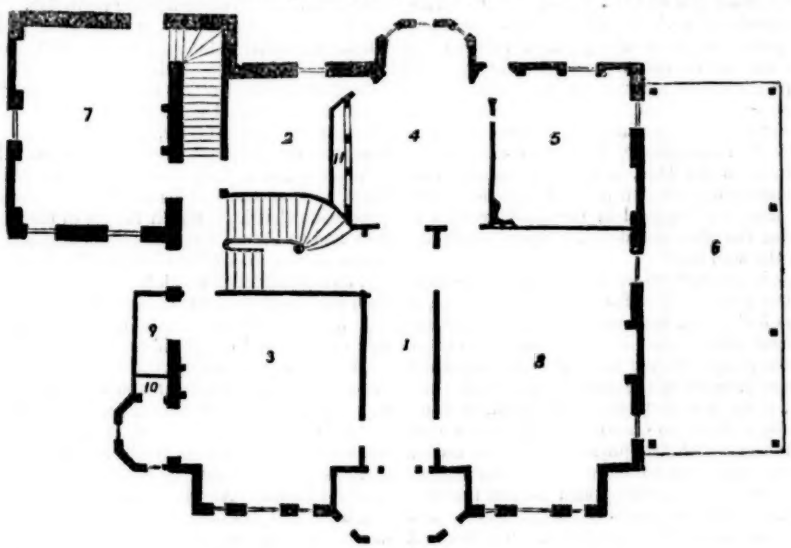
The first thing that strikes the eye in looking at this house, is the circular hoods in the attic story—a contrivance which gives height to a considerable portion of the rooms, and has externally a good effect. The attics are in fact as good rooms as need be asked—superior to any we have seen in dwellings of the same elevation. A front portico, and two projecting bay windows, make not only a cheerful entrance, but add materially to the size of the drawing and dining rooms. The portico, as well as the interior hall, are paved with tesselated tiles, made by MINTON & Co., Stoke-upon-Trent, England, which are now becoming so much appreciated, and which cannot be too much known.

The interior of the house is divided in a different manner from most dwellings, as will be seen by a glance at the ground plan. The hall is carried only to the depth of the drawing room, where, by an ornamental ground glass door, it opens upon a neat library having a bay window slightly enriched at the top with colored glass, so that the view through the library door and the bay window beyond, produces an effect like that of an oratory. The book-cases on one side are recessed out of the butler's pantry, so as to occupy no space from the room. The two doors

DENWOOD — FRONT ELEVATION.

in the octagon corners are filled with book backs, bound on blocks to form a perfect representation, and to furnish the room — a plan much practiced in Europe. These doors open respectively into the butler's pantry and the private office beyond the drawing-room. Three good and useful rooms are thus obtained. The pantry is a low story; above it is the bath-room, &c.; and above that a convenient chamber; making three stories in the part of the house nearest the kitchen. The dining-room, on the left of the hall, enlarged by the front projecting window and a handsome bay window at the side, is large and convenient. Behind the fire-place are closets beyond the walls of the house, and entered respectively from the side bay window and the dining-room. They are of a comfortable temperature in the coldest weather, being behind the chimney. The staircase has been thrown out of sight in the passage from the hall to the kitchen, and being unenclosed has a light and airy appearance.

The whole house is tempered by a furnace, made to warm all the rooms if required, as well as the hall. In every way advantage has been taken of space, which is saved wherever it was possible. As exam-



PLAN OF PRINCIPAL FLOOR.

EXPLANATION.—1, Entrance Hall. 2, Butler's Pantry. 3, Dining-room. 4, Library. 5, Private Office. 6, Piazza. 7, Kitchen, with summer do. attached. 8, Drawing-Room. 9, Pantry. 10, Closet.

ples, we noticed that under the chamber windows drawers are let into the stone walls, for shoes, &c; in the library is a concealed umbrella closet; and between the book-cases a long closet in the pilaster for drawings, or spy-glasses, &c. Both hydrant and rain water are plentifully supplied to the house and grounds, in which are also two pumps, a gardener's lodge, convenient stables and coach-house &c., &c.

The spot on which this house is erected was two years ago a stable-yard. The visitor will be struck with the transformation that has been already effected. When Mr. SMITH's numerous fruit and ornamental trees have had a few year's more growth, we hope to visit it again, and have no doubt of being able to call it one of the handsomest and most convenient places in Pennsylvania, where, by the way, much good taste is growing apparent.

The house was designed by an English architect to combine all the comforts collected in a compass of 42 by 36 feet; the design was carried out and improved by THOMAS U. WALTER, Esq., the architect of Girard College, and now superintendent of the Capitol extension at Washington.—*Horticulturist.*

FARMING IN ILLINOIS.

LETTER FROM HON. EDWARD BATES.

ST. LOUIS, Tuesday, Sept. 20, 1853.

To Bronson Murray, Esq., Corresponding Secretary State Agricultural Society:

SIR:—I ought long ago to have acknowledged the receipt of your very gratifying letter of Aug. 12th, inviting me to attend, as a guest of the Illinois State Agricultural Society, their first Annual Fair and Cattle Show, to be held on the 11th, 12th, 13th, and 14th of October next, at Springfield.

I heartily thank you and the society for the invitation, and especially for the kind feeling and good opinion (as expressed in your letter) which induced the society to extend to me that valued courtesy. My inability to attend the fair will be a serious loss to me, in pleasure and information; but I connot come. At the very time of the fair, official duty will confine me in St. Louis, where, instead of viewing the rich products of the land, and interchanging views and opinions with intelligent and still advancing producers, I must be engaged in the austerer duty of investigating the titles and deciding upon conflicting claims to the land itself.

Perhaps, in me, agriculture is a theory only—more a fancy than a fact. Yet, from childhood's state, it has always had strong hold upon my affections; and my judgment tells me that it is the fonndation of all our national prosperity, the solid platform on which all the great interests of the country must rest. It is a science; if by that we mean art reduced, or capable of being reduced to known rules, it is more entitled to the name than law, physic, geology or astronomy; for its operations are more open to observation, and its results more readily applied to the practical uses of man. And for this very reason, perhaps, as a science, even as an art, it is neglected, if not despised. It is not taught in our schools and colleges, though Sir WILLIAM BLACKSTONE assures us that, in Universities, everything ought to be taught which it benefits a gentleman to know; and in the industrial department of life it is not acquired, as all other valuable trades and callings are, by long and laborious apprenticeship.

It seems to be a very common opinion that agriculture is as natural to man as eating and sleeping; or, if not exactly so, that it may be caught by simple contact, as men catch diseases and bad habits; that it needs no study, no learning, no talents. And hence the pursuits of agriculture (except as an occasional amusement and costly plaything for the rich) has been unwisely and unjustly consigned to a low place in the scale of social life. We cannot cast off from ourselves this folly and injustice, and saddle it upon our government rulers, as we do most of the evils that beset us. The fault is at home. It is a noxious weed that grows spontaneously in almost every garden. Let us look into the domestic circles that surround us (to examine our own might be rather a painful search, and we shall be very apt to find that nine men in ten—unconsciously, it may be, without any premeditated wrong—place agriculture below most other respectable occupations.

Observe that worthy farmer. He is a man whose good sense, sound judgment, and skilful industry have made him the owner of broad fields, fat cattle, and the breeds of sheep, hogs and horses. He has earned a high reputation for practical prudence and wisdom, by the good management of his own affairs. He has three sons. TOM is a very smart fellow, quick of thought and prompt of action, with a confident manner, and a ready gift of gab. Now, a hundred to one, the misleading vanity of the doating father will overcome the prudence of the wise father, and he will make TOM a lawyer, with the confident hope of seeing his brilliant son, after winning the honors of forensic warfare, shining in a higher sphere, as a flaming patriot and an office-holding politician. DICK has not the taking way of his brother TOM; he is not so quick to perceive a thought, nor so ready to speak it, but he is a clever, promising boy, of excellent parts, and, in the opinion of his father, has quite too much talent to be wasted on corn and cattle, so DICK is made a doctor. HARRY, poor fellow, is a good-humored, dull boy, who never thinks until his mind is jogged, and is very slow to get his lessons. In short, he is an oaf, and his good father comes to the conclusion that he is not fit for any of the higher callings, and so he will let him follow farming. No attempt is made to educate him for the business of his life, and, in all likelihood, he will never learn more than the crude elements of his profession, and that he will live and die without a higher thought than to talk of oxen and delight in the goad.

Men seem to forget that there is as much difference between a mere plowman and a well-taught farmer, as between a wood-chopper and a master builder. As a trade to live by, agriculture is surely the best and safest of all occupations, for by it, even ignorance and dullness, with moderate application, can insure a decent livelihood. And if, in the pursuit of that calling, taste and learning were added to industry, we might well hope to witness in another generation, as many and as great improvements in the cultivation of the earth, as the present generation has witnessed in the thousand wonders of chemistry and mechanism,

and in the subjection of steam and electricity to the common uses of man.

The Legislature of Illinois has done itself honor in passing the resolutions, a copy of which accompanied your letter. It is peculiarly fit and becoming in that honorable body to take the lead in the great effort to educate the classes devoted to agriculture and the useful arts, and thus to make productive labor attractive and honorable, by giving to it the strength of knowledge and the dignity of science. For Illinois is destined to become, and that right soon, the first and greatest agricultural State in the Union. Its navigable waters are, I think, unequaled by any inland country in the world; its artificial means of transportation will soon be unsurpassed; its latitude and climate are exactly right for the production of the great staples of commerce; and as for its soil—the whole surface of the State is one unbroken continuity of luxuriant richness. I have traversed the State in some half a dozen directions, embracing the length of the State from Shawneetown to Galena, and have never seen within your borders a single township of poor land.

Never did a young and rising people enjoy greater advantages or brighter prospects, and happy for you and for the whole country will it be, if you bear in mind the unvarying truth, that the blessings of Providence are always associated with correlative duties. Such a country, so excellent by nature, and so improved by intelligent labor, calls upon you with the authority of a parent's voice, to put forth your best energies, and not to be weary of well doing, till you have accomplished the noble object of your Legislature, and have scattered in every field the good seed of educated labor and intelligent enterprise which your society were designed to sow.

May your hearts never faint and your hands never tire till all your good ends are accomplished.

Most respectfully, EDW. BATES.

HIGHLAND AND AGRICULTURAL SOCIETY.

PROFESSOR LOWE presided. *"The Recent Progress of Scientific Agriculture."* Dr. ANDERSON, in the course of his address on this subject, after preliminary remarks, referred first to our knowledge of soils, and on this department of his subject he thus discussed the researches of Professor WAY, on the absorptive power of soils:—

"It has been long known to chemists that clay possesses, to a very small extent, the power of absorbing and fixing ammonia; but Mr. Way has shown that all fertile soils are capable of absorbing not only that substance, but the alkalies and magnesia. Thus, if a soil be shaken up with water containing a small quantity of ammonia or any of its salts in solution, and then left to deposit, the clear fluid drawn from the surface is found to be entirely free of ammonia. This absorption, however, is confined to the ammonia, none of the acid with which it is combined being retained by the soil. Thus, if sulphate of ammonia be employed, the whole of the sulphuric acid is found with the fluid, combined with lime. A true chemical decomposition has here occurred, lime derived from the soil having replaced the ammonia in its compound. The extent to which the absorption of these substances takes place is small, and has, as yet, been accurately ascertained only with regard to ammonia and potash. It differs greatly according to the nature of the soil, and whether the substance is employed in the pure state or combined with acids. Thus, a loamy soil from Dorsetshire absorbed 0.3921 per cent. of ammonia; a lighter soil from Berkshire took up 0.1570, and a subsoil clay from Somerset only 0.0818. In regard to potash, the experiments published by Mr. Way refer only to a sort of pottery clay, which takes up 0.4366 per cent. from the nitrate, and 1.05 from a solution of pure caustic potash. Direct experiment has shown that this absorptive power is not due to sand; and as it is found to exist in pure potter's clay, brought up from a considerable depth, Mr. WAY infers that it does not depend on organic matters, but is entirely due to the clay. In a later paper he has extended his investigations, and starting from the obvious fact that the absorption could not be due to the clay as a whole, but rather to some particular substance existing in it, and possessing a high degree of absorptive power, he has inquired into the subject in this point of view, and arrived at results of much practical and scientific interest. As it it was manifestly impossible to extract from the clay the supposed substances to which its absorptive power was attributed, he adopted a different mode of investigation. He first proved that felspar, albite, and the other minerals from which the clay of our soils is produced, have no absorbent effect, and then proceeded to try what could be done by the artificial formation of substances of a similar nature. When silicate of soda is added to a solution of alum, a white powder is formed which is a compound of silicate of alumina and silicate of soda, and this, when treated with a salt of lime, gives a similar compound, containing lime in place of soda. When this substance is macerated with a salt of potash or ammonia, it is decomposed, and there are formed double compounds containing these substances, and nearly insoluble in water. The potash compound so formed contains 24 per cent. of potash, and that of ammonia contains about 5 per cent. The substances are so little soluble in water that a gallon extracts from them only 2.27 grains of potash, and little more than one grain of ammonia. The practical inference from these facts is sufficiently obvious; suppose the soil to contain the silicate of lime and alumina, and a quantity of sulphate of ammonia to be employed as a manure, we should necessarily have produced the absorptive effect actually observed in practice; sulphate of lime would be formed, and the ammonia would pass into the sparingly soluble double silicate of alumina and ammonia, which would thus become a magazine from which that important element of our crops would be slowly liberated to the extent of a grain for every gallon of water, so as to fulfil the requirements of the plant. The solubility of these compounds is however so small, that in some instances a sufficient quantity of potash and ammonia might not be obtained by the plant were it not that their solubility is remarkably increased by carbonic acid and common salt. Mr. WAY found that a gallon of water saturated with carbonic acid gas, dissolved 2.5 grains of ammonia from its compound, and a solution contain-

ing 1.97 per cent. of common salt dissolved out amat the rate of 23 grains per gallon. We have thus another function which carbonic acid may possess, and in addition to that of acting as a food for plants, it may serve as the agent by means of which an additional supply of other substances is presented to it. The fact just mentioned may also explain the effect produced by common salt, which has always been a difficulty, especially since we have seen reason to believe soda is of little importance as a food for plants. We have already alluded to the absorption of phosphoric acid, which is in no degree dependent upon these double silicates, but solely on the presence of lime in the soil, with which it forms an insoluble compound. It cannot be doubted that these observations are of much importance, and have a very important bearing on the practice of agriculture. I cannot help thinking, however, that Mr. WAY carries his views too far, when he denies any absorbent influence to the organic matters of the soil, and attributes it exclusively to these double silicates. It has been distinctly proved that humus absorbs and retains ammonia and its carbonate; and though I do not know that the experiment has been tried, the humate of lime (which certainly exists in the soil) ought on chemical grounds to decompose the salts of ammonia, and form the humate of ammonia, which retains its base with great obstinacy. It must also be remembered that it has not been proved that these double silicates actually do exist in the soil, but only inferred, that because when artificially produced they absorb ammonia, they may be the cause of the same effect in the soil. Difficulties even exist in explaining how they should be formed there; but, with all this, it is manifest that the inquiry is an important contribution to our knowledge of the chemistry of the soil. But we must beware lest we carry too far the inferences to be deduced from these experiments, and I think there is rather a tendency to do so. The absorptive power of soils is a convenient phrase which I have sometimes heard used, as if sufficiently explaining facts otherwise unintelligible, although a very little consideration might have shown that they could not possibly have any connection with it."—*London Agricultural Gazette.*

[From the Cobourg Star.]

PRIZE ESSAY ON BUTTER-MAKING.*

BY MRS. TRAIL.

PANS of thick glass are much used in home dairies, also pans lined with zinc and a species of enamel, such as the iron stone pan and preserving pans are coated with; trays of wood about four inches in depth with pegs for letting off the milk used to be much the fashion, but I think wooden ware is liable to crack and warp during the hot weather, and is less easily cleaned from the sour particles of milk.

With respect to the churn, a small volume might be written on the kinds—in my opinion the simpler the machinery the better. The old fashioned upright churn, worked with the staff and cross dash, may be as effective in the end, but it imposes a greater amount of labor than such as are worked with a winch. The simplest churn and one that I have heard much praised by very good dairy-women, is a box churn, the sides of which are sloped so as to leave no acute angles and corners, always difficult to keep clean; the sides are provided with dashers, and a dasher is also affixed to the beam of the handle which passes through the churn, this can be unscrewed; the buttermilk is drawn off by means of a plug-hole near the bottom of the churn. I have also seen a churn with an iron wheel turned with a winch, which is very easy to work. There is the old barrel churn which is also simple and effective; the advantage of this last being that the butter can be washed before being removed from the churn, ready for salting. Earthenware pots or good stoneware jars are best for storing the cream in; with each jar there should be a clean smooth wooden staff for stirring the cream. This is a matter that dairy maids pay little attention to, and yet it is of some importance in thoroughly mixing the cream together so as to prevent any sour milk or whey from settling below, thus giving a disagreeable taste to the whole mass of butter. Those persons who churn the fore-milk of the cows only, often keep it in the churn, but this I think is apt to injure the flavor of the butter. In cool weather, scalding the cream just before churning greatly facilitates the churning, and obviates the necessity of putting hot water into the cream, a practice in very common use, but which I believe is highly injurious to the richness and good color of the butter, giving it a white, greasy, poor appearance. In the winter season the cream jar should be brought into a warm room over night, which will thicken the cream and bring it to the required temperature for churning; frozen cream will make frothy butter, or no butter will be obtained after much labor. In hot weather the churn should be allowed to stand some time with cold clear water in it, and if the weather be very hot immerse the churn in water; if a plunge churn be used, it can be placed in a tub of cold water during the churning. Many excellent dairy women are in favor of churning cream and stripping, while others prefer the cream only. I think myself that the richest butter is produced from the cream alone, but possibly a larger return may be obtained from the former practice.

Where cows are fed on turnips, a small quantity of saltpetre dissolved in a little water and mixed with the cream before churning, is said to remove the flavor of the turnips from the butter. I knew a farmer's wife who always practised it in the winter season. This same person, who was celebrated in the part of the country where she lived for good butter, used during the hot weather to put half a pint of cold spring water into each of the milk pans or trays to raise the cream, and in winter she put the same quantity of boiling water to raise the temperature for the same purpose.

Many approve of the Devonshire and Cornish plan of scalding the milk; careless servants are apt to let the milk get *over-heated*, which decidedly injures the flavor of the butter, but very good butter no doubt is made by heating the milk, and the largest amount of cream is raised from the milk; it has another advantage, that of keeping the skimmed milk sweet for the use of the family.

In a North Lancashire paper I saw the following

* Concluded from the May number.

advice to dairy women, which as it is easily tried I will insert: "Heat two pans of the same size with boiling water, let them stand a few minutes then pour off the water and pour in the new milk, cover the pan that has the milk in it with the empty heated pan, this will raise the cream in less time and in larger quantity than if put in cold pans—try it." Some persons never wash their butter but absorb the buttermilk in the following way. They place a lump of butter in a coarse linen cloth and beat against the sides of the churn, wringing the cloth from time to time in cold salt and water, repeating the beating process until the milky particles are completely removed. The famous Epping butter is thus treated. This butter has the character in London as being the finest in England, very little salt is used for seasoning it; and as the sale of it is so rapid, probably the keeping properties have hardly been tested.

The following recipe was given me by a farmer's wife who made excellent butter: "To 32 lbs. of well washed butter, she allowed 3 oz. of the following mixture: 2½ lbs. of salt, rolled fine; 6 oz. of saltpetre; ½ lb. of loaf sugar, rolled fine; these ingredients to be well rubbed in a mortar, or rolled till they were thoroughly mixed. The butter after having been well worked, to be put down in stone jars; over the top a strong brine to be poured, and the jar kept well covered. Butter thus prepared should stand untouched for a month, and it will keep for a twelve month.

The thorough extracting of the milky particles and the working of the salt well through the mass, cannot be too much insisted upon. Attention to cleanliness, coolness in summer, and a moderate temperature in winter, are the three most important matters for ensuring good marketable butter.

There are doubtless in this country many sound practical dairy women who are much more competent than myself for supplying information as to the management of dairy produce, but however skilful in practice, they are unused to arrange their ideas on paper, and perhaps are withheld by diffidence from coming forward with the valuable knowledge they have acquired by long experience, and I trust that another year some one among the intelligent wives or daughters of our Canadian farmers, who are better qualified than myself, may come forward and give a more useful and practical essay on the subject so generally valuable to all, as the management of the dairy is acknowledged to be.

OAKLAND, Rice Lake, C. W.

SPARE THE BIRDS.—On no pretext whatever should farmers or gardeners permit their birds to be disturbed. Instead of killing them or frightening them away, they should make use of every means in their power to induce them to increase in number, and become more tame and familiar. The worst of them earn twenty times what they eat, and then, what exquisite pleasure to have your garden, yard, orchard, or wood, alive and vocal with the music of merry birds. Plant trees for them, build houses, if necessary, for them, and they w ll teach you lessons of domestic bliss—preach you sermons—and warble you such hymns as you never heard elsewhere, Be kind to your birds. The law is now ample to protect your premises.

FOOT-EVIL IN HORSES.—A certain and sure remedy for the Foot-evil, called by some "Sore-foot"; by others, "run-round":

Wash the horse's foot well with warm soap-suds—wipe it dry with a cloth, then take two spoonfuls of common table salt, two spoonfuls of copperas, pulverize; take four spoonfuls of soft-soap (home-made), mix them well; spread it upon a thick cloth, apply it to the foot, then confine it with a bandage of cloth. Let it remain twelve hours, then take it off; wash as before, and I will warrant a cure; the disease will not spread the size of a wheat grain afterwards. The above is sufficient for to cure the foot alone. If, when mixed, the compound be too stiff, moisten with water. A wash of the same preparation will be good for the sore nose in horses or cattle. It often happens that cattle have the sore foot; this is equally good to cure them.

Many valuable horses have been ruined by losing their hoofs. By using this remedy it will always be prevented. One plaster is sufficient to effect a cure.—*D. S., in Southern Cultivator.*

POULTRY CHOLERA—A PREVENTIVE.—Seeing an inquiry made some time since by "*Medicus*" in your paper, relative to cholera in fowls, be the name what it may, the symptoms are familiar to me as being very prevalent here in California, carrying off thousands of fowls throughout the spring and summer. To prevent this, I have the following from an *old* fowl raiser, and have found it a remarkable good remedy by my own experience:

Put 2 ounces of red oxide of iron into one pint of quick lime, and this into 2 gallons of water, (to be kept fresh and cool;) let the fowls drink freely of this as common water; to about 200 fowls give this one day in three. The cost is but nominal, and if it succeeds with you, it will fully reward "*Medicus*" and others who may go to the small pains to try it.—*Calfon, in Southern Cultivator.*

WEEVIL IN GRAIN—HOW TO DESTROY.—I read an article in one of your numbers which spoke of keeping the shuck on corn, in order to prevent the weevil. Keeping the shuck on the corn is the best mode of preserving the corn sweet and clean, and it also prevents the weevil; but wheat and other grain cannot be conveniently preserved in the shuck. I will give a method by which the weevil may be prevented from doing damage to wheat, or other grain. It is by cutting the young (or growth of the same year) of the sassafras, and placing a few branches in the box containing the wheat. It will be preserved for three or four years entirely clear of weevil. If you think that this will benefit or interest your readers you may insert it in the *Cultivator;* if not, you may treasure it up.—*J. M. S., in Southern Cultivator.*

"CABBAGE," says the *Edinburgh Review*, "contains more muscle sustaining nutriment than any other vegwhatever. Boiled cabbage and corned beef make fifty-two as good dinners in twelve months as a man can eat."

RYE exists wild in Siberia.

Horticultural Department.

CONDUCTED BY JOSEPH FROST.

PRUNING.

The object to be obtained by pruning and thinning is the form of the plant, its fruitfulness, and the removal of disease. In this it is purposed to treat principally upon fruit bearing, the cause of the barrenness of some trees, and its remedies.

It is known that almost every description of fruit tree planted in a thin stratum of good loamy soil, with a hard, dry, and impervious subsoil, will come into bearing at its natural season. Every person, too, has noticed forest and fruit trees which have been partially thrown out of the ground by high winds, the roots exposed, or the trunks or branches injured by exposure, are always more fruitful than others.

Those trees that are grown under opposite circumstances only are barren, unless that some temporary cause should interfere, such as late frosts or other perverse circumstances. It is a frequent complaint that such a tree grows very fast; but not a single specimen of fruit has been seen upon it.

As a cure for these things, various remedies are proposed. Thos. Rivers, the eminent English horticulturist, has succeeded admirably in producing fruit from heretofore barren trees, by root pruning at regular annual or biennial seasons. He recommends root pruning fruit trees of twenty or thirty years growth as follows:

"Dig a circular trench as early in the autumn as possible around the stem of the plant, which should not be nearer than three feet, and only two-thirds of the roots should be pruned the first season, leaving one-third as support to the tree, so that it is not blown on one side by the wind, and these, of course, must be left where they will best give this support. The following season half the remaining roots may be cut, or if the tree be inclined to vigor all of them; but if it gives symptoms of being checked too much, they may, on the contrary, remain undisturbed for one or even two seasons."

The treatment thus given for plants of the same age in this country, we think, would be too severe, as trees attain a much larger size during the same period of growth than in England. If the distance from the stem of the plant to the circular trench was from four to six feet, we think it would be better, or in proportion to the size of the tree; and instead of *two-thirds* of the roots to be pruned the first season, say *one-half*, which might prove to be ample, though experience would be the best guide.

Many persons in purchasing Pears of varieties on Quince stocks, have found that while some produced fruit very abundantly, others did not. The root pruning method is particularly applicable to not only Pears on Quince, but dwarf Cherries, Apples, &c., making them come into bearing at once. The operation is performed in the most simple and easy manner, and requiring but very little labor and attention. In describing the manner it is done with these small trees, we cannot do better than to give the author's own words, which seem applicable to small fruit gardens; where the trees are of larger size, the operations must be in proportion. It will be seen that the same system may be applied with favorable results to unfruitful Pear trees on Quince grown in orchards, which are of large size; but as we said before, the operations must correspond with the size of the plants.

Mr. Rivers says: "Before entering on the subject of root pruning of Pear trees on Quince stocks, I must premise that handsome and fertile pyramids, more particularly of some free bearing varieties, may be reared without this annual, biennial or triennial operation. I have a large plantation of Pear trees on Quince stocks, which bid fair to make very handsome and fertile pyramids, yet they have not been root pruned, neither do I intend to prune them; but I wish to impress upon my readers, that my principal object is to make trees fit for small gardens, and to instruct those who are not blessed with a small garden how to keep their trees perfectly under control; and this can best be done by *annual*, or at least biennial, attention to their roots; for if a tree be suffered to grow three or more years and then root pruned, it will receive a check if the spring be dry, and the crop of fruit for one season be jeopardised. Therefore, those who are disinclined to the annual operation, and yet wish to confine the growth of their trees within limited bounds by root pruning—say once in three years—should only operate upon one-third of their trees. They will thus have two-thirds in an unchecked bearing state; and those who have ample room and space may summer pinch their pyramids, and suffer them to grow to a height of fifteen or twenty feet without pruning their roots. I have seen avenues of such trees in Belgium really quite imposing. Pyramidal Pear trees on the Quince stock, where the fruit garden is small, and the real gardening artist feels pleasure in keeping them in a healthy and fruitful state by perfect control over the roots, should be operated upon as follows: A trench should be dug around the tree about eighteen inches from its stem, every autumn, just after the fruit is gathered, if the soil be sufficiently moist; if not, it will be better to wait until the usual autumnal rains have fallen; the roots carefully examined, those inclined to perpendicular growth cut with the spade, which must be introduced quite under the tree to meet on all sides, so that no root can possibly escape amputation, and all the horizontal roots, except those that are *very small and fibrous*, shortened with the knife to within a circle of eighteen inches from the stem, and all brought as near to the surface as possible, filling in the trench with compost for the roots to rest on; the trench may then be filled with the compost; well rotted dung, and the mold from an old hot-bed, equal parts, will answer equally well; the surface should then be covered with some half-rotted dung, and the roots left till the following autumn brings its annual care. It may be found that after a few years of root pruning, the circumferential mass of fibers will have become too much matted, and that some of the roots are bare of fibers towards the stem of the tree. In such cases thin out some of the roots, shortening them at nine inches or one foot from the stem; this will cause them to give out fibers, so that the entire circle of three feet or more around the tree is full of fibrous roots near the surface, waiting with open

mouths for the nourishment annually given them by surface dressings and liquid manure."

This course may not only be adopted with dwarf fruit trees, but with standards also—the Apple, Cherry, Plum, Pear, Peach, &c., grown upon their respective stocks, not excepting the gooseberry and currant, where space is an object.

CRITICAL REMARKS ON THE CULTIVATION OF FRUIT TREES, AND POMOLOGICAL LITERATURE.

More fruit trees are grown for commercial purposes and private use in the neighborhood of Rochester, than in the vicinity of New York, Boston, Philadelphia, or any other city in the Union, or in the world. Having no interest in any of these extensive and valuable nurseries, we are in a position to judge impartially of the merits and defects of each, and to speak of them without the suspicion of any bias to warp an honest judgment. It is not unreasonable to assume that intelligent men, having a large amount of capital invested in Tree-culture, would give the subject that degree of study, care, and business attention, which would render their long experience productive of useful improvements. Such improvements, we feel confident, are now in progress; and for the benefit of the whole community, we shall point them out so far as we are able to discover them.

It has long been the common error of nurserymen to attempt to raise too many trees on an acre of ground. Trees are sold by the hundred or thousand, and numbers, therefore, are the measure of profit, rather than the quality of the article. The rearing of defective fruit trees in crowded nurseries, is still further encouraged by the lack of general knowledge of what a young tree ought to be for successful transplanting from a nursery into an orchard. Sometimes a whole Apple or Peach orchard proves a failure, because the plants were burdened with immature wood, had long flexible stems, like the little saplings that grow up so densely in wind-falls, although while standing in straight rows in the nursery, nothing appeared more promising of fruitfulness. Had each plant been allowed four times the ground, with its solar light and heat, and a free circulation of air and wind, in the nursery; and had its side leaves and small branches been unpruned and left to elaborate food for the growth of a large and solid stem instead of being pinched off prematurely; had the earth been properly cultivated around each isolated plant, instead of allowing them to grow up like an Alder swamp, where one may cut good fish-poles; young fruit trees would be so *nursed* as to make their transition from the *nursery* to the *orchard* the gentlest thing imaginable. For such a change of position, they ought to be duly prepared; and not only so, but so soundly grown that the organization of both healthy wood and healthy fruit may be reasonably expected in future years. Of course, nurserymen are in no wise responsible for the bad treatment of trees after they are taken out of their hands; but before they leave their premises, thousands and millions, purchased at prices that ought to supply trees of the very best quality, have been so badly managed that constitutional weakness and unfruitfulness are impressed on every cell and tissue bought to form a long-lived and valuable orchard. To develop fully and wisely the vital powers of seedlings and buddings, is one of the highest attainments of pomological art, and physiological science. All seeds are but a mass of cells, and endowed with but a limited amount of vital force. Buds have a similar structure, and may become, under favorably circumstances, the parents of new generations. No physiologist has been able to distinguish the vitality of a seed from that of a bud; while the life in each may be shortened by bad treatment, or prolonged by good treatment. To distinguish one kind of treatment from another, and be able to say with confidence and truth, that such and such treatment is injurious, and *tell why it is so*, and such and such treatment is beneficial, and tell why that *is so*, implies more learning than most practical men have found time to acquire. And yet, the experience, close observation and extended researches of the last one hundred years, have developed many facts, and a pomological literature worthy of our best attention. To collect, collate and scrutinize these facts, and prune the over-luxuriance of this literature, is a labor that we shall not shun. Our best books on pomology are disfigured and rendered uninviting, by a barbarous nomenclature, and an excess of such phrases as "Crawford's Late *Melocoton*;" "Crawford's Early *Melocoton*;" as though "Melocoton" expresses the word *peach* better than to say Crawford's Early Peach. If a man by the name of Crawford originated the fruit, it is proper to designate it by his name; but that done, why mystify the matter by suppressing the word peach, and using "Melocoton" in its place? Grant that this specific name once designated a particular variety or kind of peach; such distinction by the lapse of time, by changes of soil, climate, and perhaps the hybridization of Crawford or others, is now effete, and valueless. By covering up a mass of ignorance in the verbiage of needless professional terms, pomologists injure nobody so much as themselves, and their honorable and useful calling. Students are required to master so many hard words to understand a few hundred sorts of apples, peaches, pears, plums, cherries, quinces, grapes, apricots, and other fruits, that the principles of pomology are never learned by one in a thousand. Those that overwhelm you with a perfect deluge of pomological jargon, learned by heart with great labor, are generally innocent of any knowledge of the alphabet of vegetable physiology. Big words that signify nothing have so crammed their heads that there is really no room left for a single scientific idea, or thought. A reform in this matter is the first step toward the substantial advancement of fruit-culture in the United States. The popular understanding demands more sound reasoning and less verbiage, from professional pomologists. Sound principles are to be elucidated, inculcated in language not above the comprehension of the millions engaged in farming and gardening. Instruction is what they need, communicated not in French, Latin, Spanish, Italian, German, or Greek; nor in a bad compound of all these with the addition of a little English. L.

The currant and gooseberry came from Southern Europe.

NEW YORK STATE FAIR.

The New York State Agricultural Society hold their annual meeting at Hamilton Square in the city of New York, on the 3d, 4th, 5th and 6th of October next. Its competitor, the American Institute, unites with the Society in the exhibition, and it is pleasing to learn that the different Horticultural Societies located in the vicinity will join. In some departments the display promises to be far superior than at any previous exhibition of the Society.

Floral Hall, the usual center of attraction, will receive an abundance of rare and valuable contributions from the grounds and green-houses of private gentlemen, who reside in the vicinity of New York. The many enterprising florists will, too, embrace this opportunity of displaying the products of their skill and labor.

Heretofore at the exhibitions of the Society, the fruit department has been largely represented by growers in the western part of the State. Now, the place assigned by the locating committee is as equally accessible, if not more so, to the inhabitants of Connecticut, Rhode Island, Massachusetts, New Jersey, Pennsylvania, Delaware, and even Maryland, as to its more western members.

This is an agreeable feature, and ought to be improved by cultivators of fruits residing at localities contigious to the city, as great good might arise from it. The interchange of ideas, comparison of specimens grown in different localities, their characteristics in such, ascertaining the proper and correct names of fruits of which sad confusion at present prevails among growers, are sufficient inducements for cultivators to attend and carry their productions. A better opportunity than this may not occur for years to many persons.

The carrot is by some supposed to have been brought from Asia, but others maintain it to be a native of the same country as the turnip.

JAPAN CEDAR.

[*Cryptomeria Japonica.*]

Among the numerous trees and plants introduced into England by Mr. Fortune, the Collector of the London Horticultural Society in China, no one, perhaps, has attracted so much attention as the Japan Cedar. It is nearly allied to the Cyprus, and grows to the height of 100 feet in its native habitat in China and Japan, being a great favorite for avenues and valuable for timber. Whenever forest-culture shall command the attention which it deserves in this country, this "Queen of Evergreen Trees," as it has been called by high authority, is likely to be extensively cultivated on account of the durability and firmness of its wood, and the fact that the tree has a free growth, as well as a graceful form. It is employed in China for the high poles, which are every where placed at the dwellings of mandarins to denote their rank, where it is said to last for ages.

JAPAN CEDAR.

Only a few trees of the *Cryptomeria Japonica*, have as yet been imported into the U. States; nor are they likely to be abundant before they have attained sufficient age to yield a plenty of seeds. The first seeds received in England from Mr. Fortune arrived in 1844.

Mr. Barry thus commends it:

"While in England we were delighted with this tree wherever we saw it, in the open ground or in the house. We think it unquestionably the most graceful and elegant evergreen tree of the immense number cultivated in Europe. It has proved perfectly hardy in England, and its growth is exceedingly rapid, equaling the Norway Spruce. We saw an elegant specimen in the Chiswick garden nine feet high, that had made four feet growth last season."

A sandy loam mixed with some peat or leaf mold, is the kind of soil best adapted to the Japan Cedar. Care should be had not to permit a wet subsoil to damage the roots by stagnant water. Smith, in his *Landscape Gardening*, published in Edinburgh in

1852, says that it was "still doubtful whether the Japan Cedar will become more than a bush in this country," meaning Great Britain. The climate of our Central and Southern States is much nearer that of China, and more likely to suit the *Cryptomeria* than that of either England or Scotland.

THE PLUMBAGO LARPENTÆ.

[Lady Larpent's Leadwort, or Plumbago.]

In 1846, Mr. Fortune found this beautiful plant on the ruined ramparts of Shanghai, in China.

All who have seen it describe it as one of the most charming blue flowering plants now known for bedding out in masses, as we do the Verbena, Petunia, &c. The *Plumbago capensis* is a well known useful plant for bedding out, but it seems to be the opinion of cultivators that this new one entirely supersedes it. It will undoubtedly prove much better adapted to our climate, and answer bedding purposes better from its compact and bushy habit. It is described as having obovate pointed leaves, finely serrated and fringed with hairs on the margin, as will be seen by the cut. The flowers are produced in terminal clusters, and are clear deep blue, or intense violet color, with a tint of red in the throat, increased by cuttings of the young wood. An idea may be formed of the profusion of its blossoms from the fact that a single plant has borne 4,000 blossoms.

PLUMBAGO LARPENTÆ.

The *London Horticultural Magazine* says:—

"The Plumbagos flourish in any light, porous, turfy soil, but in none better than where sandy loam preponderates. The present species must be particularly well drained, and not too freely watered. It may be propagated by cuttings planted in sand, and set in a mild hot-bed: these cuttings should, as in the case of other bedding plants, be planted in the latter part of the summer, and kept over the winter in green-houses or dry frames, until the following spring.

"For pot culture it will doubtless prove a very desirable subject. It must, in this case, be regularly shifted into pots containing a compost in which turfy loam preponderates, not using very large pots, and having these drained in an efficient manner. The plants should, while young, be well stopped back, the point of the shoots being removed as soon as practicable, after they reach from two to three inches long. This is to be continued until a good round head of branches is produced, and the plant should then be allowed to grow on for flowering."

THE NEMOPHILA.

The *Nemophila insignis* is one of the prettiest of all dwarf annuals for the border, or for masses on a lawn. Its foliage is delicate and fine, and its flowers of a beautiful blue. It blooms in great profusion, and a long time. We extract the following notice from the *Horticultural Magazine* (English). There is another new and rare one, *maculata*, of a fine dark violet, with a white spot in the margin of the petal, worthy a place among the select annuals:

NEMOPHILA.

"This is a showy annual of a dwarf growth, which soon displays abundance of small blue flowers, a little

cupped, having a pure white eye, and deeply cut leaves. Its seeds may be sown at different seasons, a few in April, and a few at the end of September; for if the winter be not very sharp, they will bloom very early in spring, and those sown in the spring will come into flower by the time the autumn-sown ones decline. The young plants will bear removal, but I prefer sowing them where they are to bloom; there is, however, no harm in planting out the few that you take up from a patch when they have been sown too thickly; and some gardeners make them regularly potted plants, and therefore sow all in one place, and pot off or plant out at pleasure. They are very beautiful till they begin to straggle along the ground, when, although they still keep flowering a little, I should advise you to pull them up to make room for something better."

HINTS FOR JUNE.

Examine carefully your grafts and budded trees. See that they are not robbed of their due proportion of sap by shoots on the stock below.

If you have trees that are shy bearers, pinch off the terminal shoots when they have attained about one-half or two-thirds their usual growth, in order to develop the fruit buds for another season.

It has been found a good practice in young orchards just come into bearing, to take off a large proportion of the blossoms that may set, that they may bear every year instead of every two years, as is usual with the Apple.

The Apple tree left to bear freely, exhausts the materials for a fruit crop elaborated the previous season, and as there is not usually time after the ripening of the fruit, for its vessels to develop the fruit buds for another year, before the falling of the leaf, the consequence is, that usually the Apple tree bears its full crop every other year.

Cherry trees mature their fruit so early in the season, that time is given to elaborate the fruit buds ere cold weather sets in.

Weakly and tender trees should not be permitted to bear freely—for present profit is purchased at the expense of future health and vigor.

Mulch your newly transplanted trees and shrubs, especially those not hardy and vigorous growers. Cherry trees particularly require it.

Treat your trees and shrubs as fairly as any of your hoed crops; supply them liberally with well decomposed manure, or better, with a good compost spaded or plowed in lightly; keep your cattle from *summer pruning* or *heading them back*; watch carefully to keep them clear of insects, &c.

If slugs make their appearance on your Cherry trees, dust them with dry caustic lime or ashes. Jar your Plum trees smartly every day or two, early in the morning, and be sure to destroy by fire or boiling water all the droppings therefrom.

Soot and ashes dusted freely over your melons and cucumbers will much promote their growth, and materially assist in keeping them clear of bugs. When your squashes have commenced running, draw earth over the third or fourth joint and press it with your foot; they will root and perhaps save your fruit should the parent vine be destroyed by the bug, &c.

Keep your strawberry beds clear of grass and weeds, and remember that when swelling their fruit they require a liberal supply of water.

Sow peas and radishes every two or three weeks, if you would have a fresh supply for your table.

Put your soap-suds around the roots of your grapevines, or pour them on to your manure or compost heap—in no case let them be wasted. Wash your trees with lye of moderate strength as high as you can reach; they will soon show by clean, smooth bark, how well they appreciate good treatment.

Hang vials of sweetened water among your fruit trees. You will be surprised at the number of flies and insects that you may destroy, which would otherwise prey upon the leaves and fruit.

In transplanting your cabbages, &c., be particular to take time and do it well. You may not seem to make fast work, but how much better is it that all should make good heads instead of only one-half or one-third.

Remember that all gardening and farming operations have their appropriate season, and can never be so profitably performed as at the proper time. *

CULTURE OF FRUIT TREES.

Mr. Editor:—I want to impress upon the minds of your readers, as the season of transplanting approaches, the importance of thorough work. One tree properly set is worth two merely stuck in the ground. I set an orchard four years ago this spring, and occupied from fifteen to twenty minutes in placing every root and fiber in its proper place, and filling every crevice with mold; I also mulched them the two first years; and I have not lost one. I have manured and planted the ground every year. My trees are fine, and the bark is smooth and green. I expect to have fruit this season.

It has been before the people in your journal, but as there are many new subscribers every year it should be kept before them, that it is of no use—that it is worse than useless—to be at the expense of buying trees and then neglecting them. They want culture just as much as corn, or any other grain or vegetable. This is not all: you must watch every enemy, and particularly the borer, just at the ground; they are very destructive, and before you are aware of it your trees are ruined. Proper pruning should be observed from year to year.

Many think when their trees are set that all is done, but it is not so. I set 300 Pear trees (every other one a dwarf) a year ago last fall, and I want all the information I can get in regard to their culture. Would you advise me to put ashes around each tree, and if so how much? I can obtain refuse lime cheap; would it be good with ashes?

Will the Willow that grows on the banks of streams grow on uplands, and make a hedge plant by proper pruning? Please give me your opinion on the above, and oblige D. B. W.

Ashes and lime will be useful spread over the ground around Pear trees, a little farther than their roots extend. As to the River Willows growing on upland, it would be an experiment, and is worthy of a trial in a small way.—Ed.

Ladies' Department.

WHY DON'T THE LADIES LEARN TO COOK?

Among the common things to the teaching of which public attention is now so strongly directed, it is to be hoped that the art of cookery—one of the commonest, and yet, apparently, one of the most difficult and neglected of all—will not be forgotten. The instruction of the female peasantry in this useful art would be as advantageous to themselves when settled on their own hearths as to the middle classes, in which before marriage they officiate as domestic servants. Emigration and abundance of employment have given to the servants at home the upper hand, as completely as if they were in Australia. On all sides we hear complaints of the difficulty of finding, and of retaining when found, a cook who can roast a leg of mutton, and make batter-pudding or pea-soup. In point of fact, we have heard of ladies who have it in serious contemplation to dispense with servants altogether, as the least troublesome alternative. Without wishing matters carried quite so far, we are convinced that many of our fair friends would lose nothing, either in point of respectability or happiness, while they could add at least one-third to the effective incomes of their husbands, if they were to spend a little more time in their kitchens, superintending the preparation of the family dinner, instead of contenting themselves with ordering it—if, indeed, they condescend to do even that. Some forty years back ladies were driven to shoemaking as a fashionable way of killing time. Why not try a little cooking? Thanks to the modern stoves, with their nicely arranged skillets and stewpans, which science and mechanical skill have substituted for the blazing kitchen hearth of other days, young ladies of the 19th century, just passing its prime, may cook without soiling their fingers or injuring their complexions. Were it not so, we would not recommend them to cook. We would rather live on bread and cheese all the days of our lives.

It will be said, perhaps, that our notions with regard to female education and employment are too antiquated—that in these matters, as in everything else, a new era has dawned, and the solid course of instruction now given in colleges for ladies will be triumphantly appealed to. Ladies, however, who possess these solid acquirements—who, like Lady Jane Grey, prefer Plato to a pic-nic—will be least likely to neglect the economy of the kitchen. They will throughly understand the dignity of the employment and call to mind all the poetry of cooking. To say nothing of the dinner which Milton describes Eve as preparing when "on hospitable thoughts intent," there are the Homeric banquets, at which kings literally "killed their own meat," and at which queens and princesses turned the spit for the roasting, or drew the water and chopped wood for the boiling. Cooking is classical, and no lady will disdain to take part in it who has read of these feasts in the original Greek. Let it be observed that it is the middle and working classes on whom we wish to urge the importance of the study. An earl's daughter can afford to be so ignorant of common things as not to be able to recognize chickens in a poultry yard, because they do not run about with a liver under one wing and a gizzard under the other, though our modern poultry shows, it must be confessed, will tend much to dissipate this error. A knowledge, however, of the art of cooking is of more importance to the wives of the laboring population than to those of the middle classes, because it is the art, when properly cultivated, of making a little go a great ways. A French army can subsist in a country where an English one would starve, and chiefly for this reason—that the French soldier can cook.—*Mark-lane Express.*

USEFUL HINTS.

Metal Kettles and other Vessels.—The crust on boilers and kettles arises from the hardness of the water boiled in them. Its formation may be prevented by keeping in the vessel a marble, or a potato tied in a piece of linen.

Tin-plate vessels are cleanly and convenient; but, unless carefully dried after washing, they will soon rust in holes.

Iron coal-scoops are liable to rust from the damp of the coals.

If cold water be thrown on cast-iron when hot (as the back of a grate), it will crack. Cast-iron articles are brittle, and cannot be repaired,

The tinning of copper-saucepans should be kept perfect, clean, and dry; in which case they may be used with safety.

Copper pans, *if put away damp*, will become coated with poisonous crust, or verdigris, as will also a boiling-copper, if left wet. When used for cooking, and not properly cleaned, copper vessels have occasioned death to persons partaking of soup which had beed warmed in a pan infected with verdigris.

Untinned copper or brass vessels are at all times dangerous; it is absurd to suppose that if the copper or brass pan be scoured bright and clean there is little or no danger, for this makes but a trifling difference; such vessels for culinary purposes ought to be banished forever from the kitchen.

A polished silver or brass tea-urn will keep the water hotter than one of a dull brown color, such as is most commonly used. The more of the surface of a kettle that is polished, the sooner will water boil in it, as the part coated with soot gives off rather than retains heat.

A polished metal tea-pot is preferable to one of earthen-ware; because the earthen pot retains the heat only one-eigth of the time that a silver or polished metal pot will: consequently the latter will best *draw* the tea.

A German saucepan is best adapted for boiling milk; this is a saucepan glazed with white earthenware, instead of being tinned in the usual manner; the glaze prevents the tendency to burn which it is well known milk possesses.

A stewpan made as the German saucepan, is preferable to a metal preserving pan; simply washing keeps it sweet and clean, and neither color nor flavor can by any chance be communicated to the article boiled in it.

Editor's Table.

AGENCY IN NEW YORK.—C. M. SAXTON, Agricultural Book Publisher, No. 152 Fulton street, New York, is agent for the GENESEE FARMER, and subscribers in that city who apply to him can have their papers delivered regularly at their houses.

AGENCY IN CINCINNATI.—R. POST, No. 10 West Third street, Cincinnati, is agent for the GENESEE FARMER, and subscribers in that city who apply to him can have their papers delivered regularly at their houses.

"THE SLAVERY OF IGNORANCE AND VICE."—The leader in the last (April) number of the *Edinburgh Review*, is an able and instructive article on Mormonism, in which the writer calls attention to the fact, "that this fanatical superstition has made more dupes in England than in all the world besides"; there being at the census of 1851, 30,690 Mormons in England alone. After tracing this wonderful success to its true sources, the reviewer offers this pregnant suggestion: "Surely if, among the millions who worship in our churches, we will not say one in five [as among the Mormons], but even one in fifty, were thus animated to exertion, their achievements in rescuing their countrymen from *the slavery of ignorance and vice might at least redeem the future*, if they could not remedy the past."

"The slavery of ignorance and vice," and we will add, the slavery of prejudice, are the grand preventives of agricultural improvement. They exist every where to the incalculable injury of mankind. Why should millions of church members, and tens of millions of farmers, do next to nothing to abate an evil so wide-spread and so ruinous?

The profound indifference of educated persons to the well-being of society is, after all, the greatest marvel of the age. England needs to import about one hundred million bushels of grain a year; and the increase of its crops is a matter that vitally concerns every British subject in the United Kingdom. And yet, marvelous to relate, the five or six agricultural papers published in Great Britain and Ireland do not circulate more copies than a few industrious Mormons sell of their weekly paper, called the "Millennial Star," to its regular subscribers. Among the twenty-nine millions of inhabitants now on the British Islands, there must be nearly a million of tenant farmers and proprietors of farming lands, to say nothing of the peasantry. How many agricultural journals does the reader suppose are taken and read in England, Wales, Scotland and Ireland? Judging from the list of "stamps" returned by these journals, they have less than thirty thousand subscribers; while the "Millennial Star" alone has twenty-five thousand, according to the *Edinburgh Review*.

If the landed interest and the Church of England do little "to rescue their countrymen from the slavery of ignorance and vice," and prevent their dependence on foreign countries for their daily bread, what better do we in the United States to *augment* the elements of fertility in our meadows and pastures—our grain, tobacco and cotton fields? Have we so much as lifted a finger to remove the black pall of popular ignorance which shrouds the public mind, as to the exact *loss* or *gain*, of the things in the soil that really supply the nation with food and raiment? Ignorance, profound ignorance on this great subject is universally cherished in the land that has given birth to Mormonism, and seen its Supreme Court Judges and United States Senators become the votaries of the spirit rappings and table turnings invented by the Misses FOX in this city! Poor human credulity! That these things should be *true* beyond all doubt, is humiliating indeed; and even now while writing this last paragraph for the June number of the FARMER, there comes to us from the city of New York a handsomely printed sheet, asking an "exchange," called the "*Christian Spiritualist*," which, we dare predict, will soon wax fat on the "slavery of ignorance and vice."

Mental slavery has become a permanent American institution; the people having, apparently, adopted the Hudibrastic maxim—

> "Because the pleasure is as great
> In being cheated as to cheat."

How else can we account for the almost uniform success that rewards shameless political, religious, medical and agricultural quacks and impostures? Bold, dashing, lying impudence is always popular. By it thousands of really ignorant men have attained both power and fortunes. Such characters, whether the leaders of a church, of a political party, or of an agricultural society, are the greatest tyrants in the world; and what is more remarkable, the masses cheerfully sustain these despots, as they do LOUIS NAPOLEON in France, in perpetuating their own degradation and virtual slavery. The French are not the only worshipers of the "one man power." Human nature appears to be governed by a law having the force of instinct, which makes the few shameless empirics—the many their willing dupes.

PROPOSED EXPERIMENTAL FARM AT MOUNT VERNON.—The subjoined Report on a subject highly interesting to our readers, was submitted to the Senate on the 10th of May, by Mr. MORTON, from the Committee on Agriculture:—

"The Committee on Agriculture, to whom was referred the memorial of the Maryland State Agricultural Society, submit the following report:—

"That they have had under consideration the said memorial (which, it appears, has been adopted by the United States Agricultural Society, recently convened in the city of Washington), proposing the establishment of an agricultural school and experimental farm at Mount Vernon, under the auspices of the General Government, and approve the design of the memorialists, and ask for it the favorable consideration of the Senate.

"The United States, while they lead the civilization of the age in almost every other useful art, are far in the rear of the rival States of Europe in that which relates to husbandry. England, Scotland, Ireland, France, Germany, and even the minor States of the continent, have agricultural schools, with experimental farms attached, to blend science and practical skill in forming a model system of cultivation. A systematic education is deemed indispensable to improve the art of husbandry, as it is found essential to impart progress in every other pursuit of civilized life. We have no schools of agriculture, and receive only from report and very remote example the impulse which has led to renewed efforts in this country to imitate the cultivation abroad that has, in some degree, redeemed it from the rudeness which threatened to condemn us to perpetual inferiority.

"The longing in the public mind for scientific teaching and experimental proof and example, which contrasts the improvement of Europe so strongly with ours, is so gener-

ally manifested that Congress has attempted to gratify it by publishing annually, at great expense, gleanings on agricultural subjects, gathered by the Commissioner of Patents, and by scattering seeds of various kinds among the farmers of the country. This effort on the part of Congress, although well received, evidently does not satisfy its constituents. The innumerable agricultural societies springing up everywhere, and the multitude of agricultural journals, all express the general desire in favor of some head and system, to make a model school of instruction, which will beget similar institutions in the States through those taught in it. The contribution Congress now makes to advance the husbandry of the nation is evidently not properly directed; for it leaves the public unsatisfied and restless in regard to the aid afforded by Government to advance the great art upon which its wealth and power mainly depend. The committee thinks whatever Congress attempts to do in a matter of such magnitude it ought to do well. It exerts its power liberally to promote and protect the commerce of the country. Military and naval schools are the smallest part of the machinery devoted to that object. Manufactures have had millions on millions lavished in indirect bounties to establish them. Our Patent Office and its appendages constitute a Government establishment to advance, by the large bonus derived through patent rights on every good invention in mechanics, the interest of the class engaged in that species of national industry. Copy-rights provide the remuneration to stimulate literary labor. Yet the Government does nothing to embody intelligence and give it direction to assist the efforts of individuals in the greatest business of life, and that which should be the greatest care of Government.

"The committee would recommend the memorial of the State Agricultural Society of Maryland, supported by that of the United States, to the favorable consideration of the Senate, as presenting a plan well calculated to fill what all admit to be a great void amid the institutions of the country. It recommends an appropriation, to be placed at the disposal of the President, and applied at his discretion, to purchase Mount Vernon, to be converted into an experimental farm, connected with an agricultural school, and both to be attached either to the Smithsontan Institution or the Patent Office, and to receive from the controlling authority of the one with which it may be associated an organization in analogy (so far as difference in objects allows) like that of the West Point Academy, under the War Department; the plan when matured to be submitted to Congress for modification and adoption.

"The committee, in further elucidation of its views, submit the said memorial, which contains the recommendations of Washington upon the subject, as a part of this report, and ask that it be printed herewith."

The Memorial of the Maryland State Agricultural Society we will publish in our next. We have little confidence in the favorable action of Congress on the scheme; although the Senate Committee on Agriculture appear to be unanimous in its behalf. If the Agricultural Press and Societies of the whole country would take up the subject, probably the noble estate of Washington might become public property, as it deserves to be, and the *locale* of the best educational institution in America. Now is the time to move in the matter.

BEET ROOT BRANDY.—The Imperial and Central Agricultural Society of France appointed a committee of three of its members, eminently qualified, to examine the best process for the distillation of the Beet root. According to their Report, from the pen of PAYEN, of the Institute, the operation is as easy and simple as in the case of the cereals and potatoes; and there is no loss of the saccharine ingredient, or of the alimentary substance for cattle. The root yields as good brandy as even the grape. Distilleries multiply, and some are on a large scale.

POTATO-CULTURE.—Too much pains can hardly be taken in the planting and cultivation of potatoes. Although a fair dressing of wood ashes will not, under all circumstances, secure a full crop of sound tubers, yet no other fertilizer has so generally benefitted the crop. Rich stable manure has often appeared to induce the premature decay of potatoes; and the most experienced cultivators in this country and England avoid the direct application of manure. On the prevention of the rot. Mr. C. CORY, of Lima, Indiana, has sent us the following excellent suggestions:

"FACTS WORTH KNOWING.—The potato rot may be propagated by means of diseased seedlings. Hence much care should be exercised in the selection of potatoes for planting. There are but very few potatoes found in the market entirely free from this disease. The dry scab on the surface ordinarily indicates it as certainly as do the dark putrid spots within. Frequently the two show a diseased connection. For planting purposes select those potatoes whose surfaces are most free from all blemishes. Examine them around the stem, eyes, &c., seeing also that there is no internal affection. If resort must be had to those which show signs of disease, cut out deeply all affected parts. It is far better to cut out and plant simply the potato eyes, including a reasonable quantity of the potato, than to plant whole potatoes which are in the least affected. Here an ounce of prevention is better than a pound of cure. Elevated land with a loose soil, is better as respects this blight, than low lands, naturally wet and heavy. New clearings, recently burned over, planted with healthy seedlings, are, other things being equal, least liable to said disease. Ground that has been well stirred and aired, and kept clean, as in the thorough cultivation of corn, for one or two prior seasons, is better than sod or stubble ground. Stable manure purified by filtration, with a mixture of salt, lime and water, liberally applied to each hill at the time of planting, will tend to increase the crop and to counteract said disease. Plaster, lime or ashes applied to the vines during their growing process, will have the same tendencies.

"The potato rot, judging from its nature, is probably destined to always remain in all countries where it now exists; and, under the ordinary mode of cultivating the potato, is likely, in warm and wet seasons, to increase. Much of the evil, however, arising from this disease, may be prevented on perfectly scientific principles and at a moderate expense, when its true nature shall have become generally known and heeded. The above remarks, which are most respectfully submitted, are based on known facts gathered from investigations and experiments made during several consecutive years."

HOGS PACKED IN THE WEST.—The *Cincinnati Price Current* has a very elaborate review of the Hog Trade of the Western States, which indicates an increase of 333,660 head slaughtered in the winter of 1853–4 over those of the previous winter. From the following figures it will be seen that Ohio and Indiana send more hogs to market for packers than seven other states:

States.	1852-3.	1853-4.
Ohio,	617,342	734,300
Kentucky,	369,600	505,225
Tennessee,	26,500	58,880
Indiana,	611,018	619,176
Illinois,	361,132	368,784
Iowa,	57,500	45,060
Missouri,	112,500	149,845
Wisconsin,	35,518	49,000
Detroit,	10,000	7,500
Grand Totals,	2,201,110	2,534,770

THE prospect for a large fruit crop is first rate in the neighborhood of Cincinnati.

ENTOMOLOGY.—The Legislature of this State at its late session, placed $1,000 in the hands of the New York State Agricultural Society, to be expended in making an examination and description of the insects of this State, injurious to vegetation. At the last meeting of the Board, Dr. ASA FITCH, of Salem, Washington County, was appointed to carry this object into effect. A better selection could not have been made, and we learn that he is to devote his attention this season, mainly to the investigation of such insects as depredate upon fruit-bearing trees. His report will be looked for with interest, and we doubt not will prove of great economic and scientific value.—*Country Gentleman.*

Dr. FITCH'S essays on Wheat Flies would have been more intelligible to farmers and useful to the public, had he either avoided the use of so many technical terms, descriptive of the anatomy of insects, or explained their meaning in language plain to unscientific readers. We heartily approve, not only of the appropriation, but of the selection made of a person to study and describe the insects injurious to vegetation in this State. Our word of criticism above is prompted by the most friendly feeling toward Dr. F. that he may not again fall into a natural and too common error in scientific writers for the million.

The Natural History of New York was undertaken with the pretence that a geological, botanical and agricultural survey of the Commonwealth, would do its agriculture a service of almost inestimable value. The writer advocated the undertaking to advance the great farming interest of the State, and popularize the natural sciences; but he has lived to see over *half a million dollars* expended on this Natural History, which not one farmer in ten thousand has ever read, or ever will read, if the work be continued by Prof. HALL, his heirs and administrators, for a century.

MILK AND BUTTER COWS.—A statement is published, verified by a responsible name, of the product of milk and butter, of 14 Ayrshire cows, the property of EDWARD M. SHEPARD, of St. Lawrence county, New York, which is worthy of being laid before our readers. It is briefly as follows:—

"Mr. SHEPARD had 14 cows, Ayrshires and their crosses on natives, half-bloods, six heifers milking for the first time—time, the first week in June—feed, grass only.

"Allowing one cow for family use, and deducting 40 per cent. from heifers, and his trial stood thus:

Cows	8
Heifers 6, reduced to cows is	3.6
	11.6
Deduct one cow for family, is	1.6

"The product for the week was 12 lbs. 12 oz. per cow. The first week in July, feed, grass only, and much affected by drought, he milked twenty, eight of which were heifers, milking for the first season, and his trial stood thus:

12 cows, less one for family, is	11
8 heifers, 40 per cent. off, is	4.8
Full cows	15.8

"The product for the week, per cow, was 14 lbs. 13 oz. and a fraction over.

"But lest you might think my allowance for heifers too much, which, however, is considered a just allowance by the dairymen of this country, the result of the last trial, without any deduction for their being heifers, and four of them only two years old at that, was 12 lbs. 5 oz. and a fraction per head, for the week."

POTATOES were first cultivated in the U. States in 1719.

GATES VS. BARS.—Mr. CYRUS GRAY, of St. Paul, Minnesota, has favored us with a drawing of a common farm gate, and some sensible remarks showing the advantages of gates over bars. It is indeed strange that more farmers do not discover the economy of making gates to all their fields, rather than lose so much valuable time in taking down and putting up bars. Mr. G. says he "can make, hang and set the posts of three gates in a day, and follow it up after the materials are on the ground." He sets the main post on which the gate hangs three feet into the earth [would not four be better?], and uses for the gate five boards 12 feet long by 6 inches wide, one inch thick; one 4 inch scantling, 8 feet long, hung by hinges to the main upright post; one 5 feet long, 2 by 4 inches, for the end, to which the latch is applied. In addition to the above, two boards are used for braces—the one extending from the top of the 8 feet scantling diagonally across the gate to the bottom of it, below the latch; and the other brace starts from the bottom of the main post and extends diagonally upward till it reaches the top of it, above the latch. Thus double braced, if the work be properly executed, a very durable gate will be had. Long bar dove-hinges are preferred by our correspondent.

PERIODICALS.—Among the numerous periodicals issued from the teeming press, there are none that can be read with so much satisfaction as the able *Reviews*, (the *London, Edinburgh, North British* and *Westminster Quarterlies*), and *Blackwood's Magazine*, re-published by LEONARD SCOTT & CO., 79 Fulton Street, New York. These standard works are afforded at so low a price in this country, that every one who takes an interest in the literature of the age, or in the progress of arts and sciences, will find little difficulty in possessing the four *Reviews*, which cost but $8 a year. These and *Blackwood's Magazine* cost but $10; and no library should be without them. Farmers' sons ought to unite their efforts and means to obtain good libraries, both professional and literary; and all County Agricultural Societies would strengthen their popularity, and increase their usefulness, by subscribing for such *Reviews* as those above named. Sensible persons appreciate the value of cultivating the *man* as well as the *soil*. Our language abounds in the choicest intellectual treasures; and there is no good reason why Americans should not enjoy them.

HORTICULTURIST.—It is but simple justice to both Editor and Publisher of the *Horticulturist* (both of whom have been some years connected with this Journal), to say that they have not only sustained, but decidedly improved, that valuable work thus far in the volume for 1854. Horticulture, Fruitculture, Arboriculture, are justly esteemed as the most health-giving and agreeable, as well as useful and ornamental, of the Fine Arts. It is their legitimate function to create a refined taste where it is not, and to cultivate and improve its rude beginnings wherever a yearning after the beautiful in rural scenery exists. Horticultural literature and science are receiving increased and deserved attention in all parts of the country. The *Horticulturist* is published in this city at $2 per annum, by JAMES VICK, Jr.; P. BARRY, Editor.

A Key to True Happiness.—A book with the above title, containing 164 duodecimo pages, has been written by Mr. E. Morton, of St. Joseph, Michigan, for a copy of which we are indebted to the author. Like thousands of other philanthropists, Mr. M. would gladly do something to reform and bless a thankless, heedless, wicked world; and the better to attain the great ends of Truth and Right, in human society, he proposes to organise a new Order in the community for the increase and diffusion of knowledge and virtue. His plan of association partakes somewhat of the leading features of Masonry, united with the industry, frugality, and co-operative efforts that distinguish Friends as a Christian body. In theory, the scheme is as promising as its objects are commendable; but like ten thousand churches that sink to the level of the dominant passions and common failings of the mass of mankind, this new Order would either die from the lack of popular sympathy, or do as other people act. If the piety, devotion and genius of a few gifted sons of Adam were adequate to persuade mankind to love and seek the Truth, to learn and obey the Right, popular ignorance, vice, crime, and all their pestilent fruits, would long since have been banished from the world in which we live.

Had we room, we would gladly pursue this theme at some length, for the ways and means adapted to the elevation of our race are matters to which we have given the consideration of at least a score of years.

Lewie, or the Bended Twig, by Cousin Cicely, has been laid on our table by the publishers.

We wish that every mother in our land, who resembles the Mrs. Elwyn of the tale, would carefully peruse the above, and note well the results of neglect in early parental government, and many might learn from the gentle and patient Agnes the true spirit of love and kindness to our fellow men.

Pearl Fishing; or, a selection from "Household Words," by Dickens, is a choice selection of stories—grave, humorous and instructive.

The Two Eras of France; or, True Stories from History, by Hugh De Normand, is another work of great merit. The history of France has at all times been of deep and thrilling interest. For a thousand years, it has been interwoven with that of nearly all the nations of Europe, and it is well worth one's while to acquire a knowledge of some of the leading events in her history.

The publishers, Messrs. Wanzer, Beardsley & Co., deserve credit for their enterprise and industry in getting up works of worth and utility, and we are glad to know by their rapidly increasing sales, that the public appreciate their labors in its behalf.

Struggles for Life, is the title of an interesting and suggestive work published by Lindsay & Blakeston, Philadelphia, purporting to be the auto-biography of a dissenting minister. It is written in a charitable spirit and well inculcates the duties of love and charity towards our fellow man.

Phosphorus was first discovered in 1699.

A Treatise on Growing Tobacco in the United States.—We have received a small pamphlet treating of Tobacco Culture, anonymously written, or compiled, and published by E. H. Babcock & Co., Syracuse, which is truly a valuable little work. Many persons in the Northern States, and a few in Canada, are devoting some attention to the production of this staple. To all such we commend this treatise, for the plain and useful information contained therein. Price 25 cents; address publishers.

Rochester Agricultural Machinery.—The attention of our readers is directed to the advertisement of Mr. Joseph Hall, who manufactures in a superior style several of the most approved Reapers, Mowers, &c.

Inquiries and Answers.

Ashes, Bones and Oyster Shells.—A correspondent asks: "What is the relative value of leached and unleached ashes? and how much per bushel will it do to pay for the latter? Can bones be dissolved in sulphuric acid without being first broken or ground? Is oyster shell lime worth twice as much as shell lime?"

As wood ashes are ordinarily leached, they are worth perhaps about half as much per bushel as they were before leaching. Some ashes are more soluble in both cold and hot water than others; the least soluble retain most of their fertilizing elements. Ashes leached but a short time may retain two-thirds of their value for agricultural purposes; while if washed for months or years out doors on a side hill, they may part with four-fifths of their manural virtues.

Where corn is worth fifty cents a bushel, it will generally pay to buy good house ashes at from ten to fifteen cents a bushel; much depends on the quality of the soil. Bones may be broken with a stone hammer, or an old axe, sufficiently for dissolving them in sulphuric acid. Treat them as described in the April number of the Farmer. Oyster shell lime is not worth twice as much as stone lime per bushel.

You will do a Canadian subscriber a favor by giving a few remarks on the advantages of drill culture in your next number, as we are quite inexperienced in the use of grain drills.

The principal advantages of sowing wheat in drills instead of broadcast, are the following:

1st. It is impossible to cover seed at a uniform depth when it is sown broadcast, and either harrowed, cultivated, or plowed in; consequently, it comes at different times, and never acquires the same degree of maturity, so that three-fourths of the crop will be ripe enough to cut six or eight days earlier than the other fourth ought to be harvested. This unevenness of ripening often causes a considerable loss.

2d. Less seed by a fourth is required per acre where it is well drilled than where it is sown broadcast; and it can be covered at a nearly equal depth, thereby securing a much better stand.

3d. It is entirely practicable to stir the ground between the rows of properly drilled wheat; and this cultivation, duly performed, benefits the crop as much as tillage be-

tween rows of maize, turnips, beets, carrots, potatoes and beans, benefits these well-known agricultural plants.

4th. Clean culture tends to prevent undue dampness about the stems and leaves of wheat as it approaches maturity, and thereby renders it less liable to be attacked by rust at the most critical period of its growth.

Other incidental advantages might be named, but enough has been said to justify the preference generally given to the use of the drill in the sowing of this important grain. Now is the time to prepare for putting in wheat in first rate order next autumn; and we invite attention to the facts that wheat is now, on the 18th day of May, worth $2.25 a bushel in Rochester; and in all human probability, the farmers of this county will harvest in July, now close at hand, over *fifteen hundred thousand bushels* of prime Genesee wheat. We have made the cultivation and statistics of this staple a special study for more years than the Erie Canal has been excavated, and shall give a leading article on the subject in our next.

Will it do to put sheathing on the rafters of a building, jointing them pretty close, and then cover them with pitch and harden it with sand, say two or three coats?

Such a roof, if well made, resembles the deck to a vessel; and to prevent leaks, the plank or "sheathing" should be narrow, otherwise the shrinkage in each board will open a crack on either side of it, through which water will pass. Caulking, as well as pitching, would be an improvement. Water lime cement is the only one known to us of any value for turning water. There are, however, several cheap paints, being earthy minerals mixed with oil, which will protect wood from decay, close joints, and thereby prevent leakage. These pigments are patented.

I WANT a machine to cut corn stalks to pieces in the field—a roller with knives, or something of the kind, that will cut them short enough not to be in the way of plowing young corn. I know not whether there is such a machine; if there is not, it is time one was invented. Our corn land on White River is overflowed two or three times during March and the winter months. We raise on it nothing but corn. The stalks grow rank, and we have to rake and burn them. Such a machine would, I think, save all this trouble. If there is any such, please give a description and the cost of it, through the FARMER; also the best way to harden tallow for summer candles. NOAH HODGES.—*Lamb's Bottom, Ind.*

POLAND OATS.—Will you oblige me by stating in your next number, or by propounding the query for the consideration of some of your correspondents, Whether there is any profit in raising the Poland and other heavy oats? If so, how much? A comparative statement of the different kinds—showing quantity of seed per acre, time of growth, yield of straw and grain, the hay value of each, and the probable action of each in depreciating the soil, would constitute an essay of immense value to this county. JOHN M. HAMILTON.—*Coudersport, Potter Co., Pa.*

I HAVE just commenced keeping stock, and have thought of breeding (or crossing) the fine wooled Merino buck with the Leicestershire ewes. I had supposed that I should then get a large frame and a fair quality of wool, which would be the most profitable for small farmers. I noticed a remark in some agricultural paper that the cross would not do to breed from. If this is the case, I should like to know it. What I wish to ask is this: What will be the effect of crossing the Merino with the Leicestershire? will the stock do to breed from? if not, what is the reason. N.—*Warsaw.*

I WANT a little information. I have a valuable mare that has the *piles*. Can you tell me any thing about this complaint in the horse? What will cure it, if it can be cured? if not, what will be the final result of it? Will you tell me whether it is best to graft or bud the pear? Some say, bud by all means; but why? Also, can you tell me how to make vinegar in a country where there is no "hard cider"? E. DAYTON.—*Huntly Grove, Ill.*

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—TWO DOLLARS for every hundred words, each insertion, PAID IN ADVANCE.

TO YOUNG MEN.—PLEASANT AND PROFITABLE EMPLOYMENT. Young Men in every neighborhood may obtain healthful, pleasant, and profitable employment, by engaging in the sale of useful and popular Books, and canvassing for our valuable Journals. For terms and particulars, address, post-paid,

FOWLERS AND WELLS,
No. 308 Broadway, New York.

P. S.—All Agents who engage with us will be secured from the possibility of loss, while the profits derived will be very liberal.
May 1, 1854.—2t

FARMER AND GARDENER WANTED.

WANTED, on a farm in Ulster county, about 95 miles from New York, a young married man, capable of doing general farm work, and willing to make himself generally useful.

Also, wanted a young married man, capable of cultivating a plain garden, taking care of horses, &c., and occasionally to assist with farm work.

Privileges allowed are house and garden spot, keeping of a cow and pig, and fuel for the year. Persons answering above description, and able to furnish good recommendations as to capacity and integrity, may address, stating terms in addition to above privileges,
April 1, 1854.—3t. W. W. DIBBLEE, New York.

IMPORTED HORSE CONSTERNATION.

THIS well-known, thorough-bred Horse, will stand the present season, as heretofore, at the farm of the subscriber, one mile west of Syracuse. For full pedigree, see Derby & Miller's edition of Youatt. Terms—$10 the season, $15 to insure; payable in advance in all cases. Good pasturage furnished at 4s per week. Mares at risk of owners in all respects. No mare will be served that is either ringboned, spavined, or blind. J. B. BURNETT,
May, 1854.—3t Syracuse, N. Y.

CULTIVATION OF TOBACCO.

A PRACTICAL TREATISE ON GROWING TOBACCO IN THE NORTHERN STATES, just published. Price, 25 cents.
E. H. BABCOCK & CO.,
May 1, 1854.—3t Syracuse, N. Y.

BONE DUST.

BONE sawings, or meal, a very superior article, warranted pure. Price, $2 75 per bbl.
Bone dust, ground, (quite fine). Price, $2 37 per bbl.
For sale, in any quantity, at the State Agricultural Warehouse.
LONGETT & GRIFFING,
May, 1854.—3t No. 25 Cliff street, New York.

HARVEST IMPLEMENTS.

KETCHUM'S Mowing Machine, Hussey's Reaper and Mower combined, and those of other inventors, with all the latest improvements. Scythes, Snathes, Sickles, Horse, Hay and Hand Rakes; Grindstones hung on friction rollers, etc.
Improved Threshing Machines and Horse Powers, of all the best kinds.
R. L. ALLEN,
June 1, 1854.—1t 189 and 191 Water street, New York.

PEOPLE'S PATENT OFFICE,
86 Nassau-st., New York.

CAVEATS.—Inventors and others desiring to apply for Caveats, are informed that all the necessary drawings and papers are prepared by the undersigned with the utmost despatch and on the most moderate terms. All other Patent business promptly attended to.

Persons wishing for information or advice relative to Patents or Inventions, may at all times consult the undersigned *without charge*, either personally at his office, or by letter.

ALFRED E. BEACH,
Solicitor of Patents,
June 1, 1854.—1t 86 Nassau street, New York.

McCORMICK'S REAPING AND MOWING MACHINE

I AM manufacturing 1500 Reaping and Mowing Machines for 1854, and farmers who want Machines are requested to send in their orders early. Last year I had not a supply, although I had 1500 in the market.

I offer my large experience (both in this country and in Europe) for the last fifteen years and more in this business, as the safest guarantee the farmer can have in the purchase of a Machine of this kind.

Deeming it useless to insert long advertisements in the newspapers, I shall be pleased to furnish applicants with my printed Circular.

Some important improvements have been made, while the Machine will be found as simple and efficient as a Machine of the kind can be. The important points that will present themselves in these Machines, will be Perfect Simplicity, Ease of Repairing, Durability, and Adaptation to the Wants of the Farmer as a Reaper and Mower. I shall continue the use of the Wrought-iron Beam, which will be found very important in mowing, because of the friction upon the ground, and liability to tear and wear a Wooden Beam, or any sheet-iron lining that may be used upon it. Another very important advantage which I claim for my Combined Machine is that it can be readily changed so as to cut any desired height of stubble as a Reaper or Mower by simply removing three bolts. This principle will be found wanting in other machines, though valuable upon rough ground, or for mowing barley or lodged oats, timothy seed, clover seed, &c., or where the ground may not be firm, and there be liability in the wheels to sink and the cutter to be brought in contact with the ground, sand, gravel, &c. With my Combined Machine the farmer has the advantage of a Reel in mowing, which admits of a slow walk to the horses, and is especially valuable when the wind interferes with the successful operation of the Machine. I have no fear of the result upon trial of the Machine with others; it has no superior as a Reaper or as a Mower.

The public are now especially cautioned to beware of SEYMOUR & MORGAN'S "NEW YORK REAPER." These men have been selling my Machines, *though under an injunction the second time since the re-issue of my Patent in April last*, in addition to a verdict of $20,000 for past infringements.

☞ Sundry other parties will soon be held to strict account for their infringements under this Patent, which makes them just as liable to be enjoined as Seymour & Morgan.

The Machine will be warranted equal to any other, both as a Reaper and as a Mower; and it will be forwarded to any part of New York or Canada, if ordered of THOS. J. PATERSON, at Rochester, N. Y., who wants Agents to sell it in some of the unoccupied wheat districts. C. H. McCORMICK.

May 1, 1854.—tf

AGENTS WANTED.

CHANCES FOR MAKING MONEY!

THE publishers of a large list of highly entertaining, useful and popular Books, offer great inducements to 500 energetic and thorough-going business young men, to engage in the sale of these publications, in which any young man of good business habits may make FIVE TIMES the amount, over and above all expenses, of the average wages of Common School Teachers.

The MOST LIBERAL discounts are made to Agents from the list of prices.

The books command ready sales wherever they are introduced.

None need apply unless they wish to devote their whole attention to the business, and who cannot command a CASH CAPITAL of from $25 to $100, or give undoubted security for the amount of goods entrusted to them.

Full particulars in regard to terms, &c., will be furnished by calling on, or addressing, post paid,

WANZER, BEARDSLEY & CO.,
24 Buffalo Street, Rochester, N. Y.,
Or, ALDEN, BEARDSLEY & CO.,
June 1, 1854.—tf Auburn, N. Y., Publishers.

MOWER AND REAPER.

FORBUSH'S NEW IMPROVED COMBINED REAPER AND MOWER.

THE above patent machine is now permanently established, and its entire success as a reaper and mower proved beyond all doubt. This machine will be warranted to be made in a workmanlike manner, and of the best materials, and is capable of cutting from ten to fifteen acres of grass or grain per day; and in all respects to do the work as well, and as easy for the horses, as any other machine in the country.

Price of Combined Reaper and Mower, ... $135
" Mower, ... 115

LONGETT & GRIFFING,
May, 1854.—3t 25 Cliff st., New York.

KETCHUM'S MOWERS,

WITH the new improvement. For sale by
LONGETT & GRIFFING,
May, 1854.—2t 25 Cliff street, New York.

GREAT ARTISTS' UNION ENTERPRISE!!

250,000
GIFTS FOR THE PEOPLE.

STATUARY,	$40,000
OIL PAINTINGS,	10,000
ENGRAVINGS, colored in oil,	45,000
STEEL PLATE ENGRAVINGS,	41,000
CASH LOANS, for 100 years each,	30,000
REAL ESTATE,	84,000

Total, $250,000.

The AMERICAN ARTISTS' UNION would respectfully announce to the citizens of the United States and the Canadas, that for the purpose of the advancement and extension of the Fine Arts, and with a view of enabling every family throughout the length and breadth of the land to become possessed of a gallery of pictures, many of them the work of master minds, and finally, for the purpose of giving a world-wide circulation to

DARLEY'S GREAT PICTURE OF WYOMING,

they have determined to distribute among the purchasers of this work, **Price $1.00**, 250,000 GIFTS, of THE VALUE of $250,000.

LIST OF GIFTS.

Marble Statuary, $40,000.

100	elegant busts of	Washington, at $100,	$10,000
100	" "	Clay, at $100,	10,000
100	" "	Webster, at $100,	10,000
100	" "	Calhoun, at $100,	10,000

Oil Paintings and Colored Steel Engravings.

50	elegant Oil Paintings, in splendid gilt frames, size 3 x 4 feet, each $100,	$5,000
100	elegant Oil Paintings, 2 x 3 feet, each $50,	5,000
500	steel plate Engravings, brilliantly colored in oil, rich gilt frames, 24 x 30 inches, each $10,	5,000
10,000	elegant steel plate Engravings, colored in oil, of the WASHINGTON MONUMENT, 20 by 25, each $4,	40,000
237,000	steel plate Engravings, from 100 different plates, now in possession of and owned by the Artists' Union, of the market value of from 50 cts. to $1 each,	41,000

Real Estate, $84,000.

1	elegant Dwelling in 32d street, New York city,	$12,000
22	Building Lots in 100 and 101st streets, New York city, each 25 x 100 feet deep, each $1000,	22,000
100	Villa Sites, containing each 10,000 square feet, in the suburbs of New York city, and commanding a magnificent view of the Hudson River and Long Island Sound, each $500,	50,000

Loans of Cash, $30,000.

20	loans of cash, for 100 years, without interest or security,	$250 each,	$5,000
50	do.	100 "	5,000
100	do.	50 "	5,000
250	do.	20 "	5,000
2000	do.	5 "	10,000

The holder of each ticket is entitled, first, to a steel plate Engraving (size 25 x 30 inches) of the

GREAT AMERICAN HISTORICAL WORK OF ART, WYOMING,

a copy of which may be seen at the office of this paper; and second, to **One** of the **250,000 Gifts**, which will be distributed on the completion of the sale of the tickets.

The purchaser of FIVE TICKETS, on the receipt of his order, will be forwarded, carefully packed, either one copy of the "Wyoming," plain, and one copy of each of four other engravings, equal to it in value, and is entitled to five gifts. The purchaser of more than five tickets can have his choice out of 100 different subjects, from steel plates owned by the Artists' Union, each picture being in value equivalent to the "Wyoming," and is entitled to one gift for each ticket he holds. A list of the subjects can be seen at the office of this paper.

AGENTS.—Persons desiring to become Agents for the sale of tickets, by forwarding (post paid) $1, shall be sent a Gift Ticket, a copy of Wyoming, and a prospectus containing all necessary information.

It is confidently believed that the tickets will be disposed of by the first of July, when the distribution of Gifts will be entrusted to a COMMITTEE APPOINTED BY THE TICKET-HOLDERS.

The steel plates from which the engravings are printed can be seen at the office of the Artists' Union, and cost $100,000. Specimens of the Oil Paintings and Engravings are also on view at the rooms.

REFERENCES IN REGARD TO THE PROPERTY.

W. C. BARRETT, Esq., Counsellor at Law, 10 Wall street, N. Y.
F. J. VISSCHER & Co., Real Estate Brokers, 80 Nassau st., N. Y.

ALL ORDERS FOR TICKETS must be addressed, post paid, with the money enclosed, to J. W. HOLBROOKE, Sec.,
June 1, 1854.—3t 505 Broadway, New York.

ROCHESTER AGRICULTURAL MACHINERY.

THE undersigned, who has been many years engaged in the extensive manufacture of various kinds of Agricultural Machinery, particularly Horse Powers, Threshing Machines, Separators, &c., has now added to his business the manufacture of several valuable implements—

1st. ATKINS' AUTOMATON OR SELF-RAKING REAPER AND MOWER; an implement well known at the West, which has been advertised for the last three months by Mr. WRIGHT of Chicago, in the GENESEE FARMER, to which the reader is referred for particulars.

Atkins' Self-Raking Reaper.—This machine was in successful operation on the farm of B. B. KIRTLAND, Greenbush, on Wednesday and Thursday of last week, and elicited the approbation of every one who saw it. It is impossible to convey in words any idea of the mechanical construction of the raking attachment. The cutting apparatus does not differ materially from that of other reapers, but at regular intervals an arm, to which a rake is attached, extends itself to the farther part of the apron, slowly draws itself the length of the apron, pressing the grain against a plate, where it holds it till it swings around a quarter of a circle, clear of the machine, and coolly deposits its neat sheaf on the ground, when it immediately returns to repeat the process. The machine is not of heavier draught, apparently, than other machines—and it does its cutting fully equal to any we have seen work. While it has no superior as a practical thing, it is a curiosity worth quite a pilgrimage to see. It comes the nearest to being instinct with life and manifesting signs of intelligence, of any piece of mechanism, not excepting the steam engine.—*Country Gentleman.*

2d. BURRALL'S GRAIN REAPER.—At the great trial of Reapers in the harvest field, at Geneva, N. Y., in July last, the Committee appointed by the State Agricultural Society, took into consideration its simplicity, durability, the manner in which it performed its work, and the ease with which it can be managed, when, in competition with eleven other Reapers, they unanimously awarded it the *first prize of* $50 *and diploma.* The Committee in their report remark that "T. D. BURRALL'S Machine performed its work in the most admirable manner; the gavels were well laid; the workmanship and materials were excellent; the circular apron for side delivery, the balance wheel and an arrangement to elevate the exterior edge of the apron, are valuable features, &c., &c.

This Reaper has been thoroughly tested practically, during the last two years, in Western New York. All the Reapers sent out have given complete satisfaction. We would say to those who are not convinced of the superiority of this Reaper over all others, that we have still more facts which we could not exhibit for want of space, and which we would be pleased to exhibit to all such as may call upon us. We would observe that experience with this Reaper will bear us out in saying that

1. It cuts grain of all kinds, in all conditions, without clogging, and may be worked by oxen or horses.
2. It cuts at any height required, by a few moments' change.
3. It discharges the grain in the rear, if preferred, like HUSSEY'S; or at the side, like M'CORMICK'S; leaving room for the team and machine to pass again without treading on the grain. This change is made by means of an extra apron, (attached in a moment,) from which the grain is laid in a better condition for drying and binding, and with much less labor to the raker than has ever been done before.
4. It has a Balance Wheel, which corrects the irregularity of the crank motion, and gives a quiet and uniform movement to the machine.

This Reaper has been so thoroughly tested in Western New York, where wheat grows as stout or stouter than in any other part of the country, that there is now no doubt but that it will give entire satisfaction to all who may purchase. There is, however, no risk in buying. The purchaser can rest assured that when his harvest comes, he has something that will perform. It is not like an untried thing, or a thing that has not been tried in the Genesee country, where wheat grows large and stout, and may fail, and in failing, make the purchaser enough expense in money and trouble to considerably more than have purchased something reliable at first. Experiments cost too much money, time and trouble, to be carried on in the hurry of harvest time, and by those who ha e crops to secure. We say, therefore, if you buy a Reaper, buy one, the reliability of which has been demonstrated by thorough, practical experiment, and if possible, in your own neighborhood, and on soils producing similarly to your own.

3d. DANFORTH'S REAPER AND MOWER COMBINED, which took the first premium at the Agricultural Fair in Chicago, 1852.

4th. KINMAN'S PATENT FLOUR PACKER.

5th. CHILDS' GRAIN SEPARATOR.

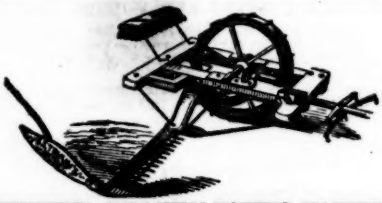
6th. WOODBURY'S MOUNTED HORSE POWER AND GRAIN SEPARATOR.

7th. HALL'S SIX FEET DOUBLE PINION HORSE POWER, which is unequaled for strength, easy working and durability.

8th. IRON OR PLANET HORSE POWER.

9th. PITT'S PATENT THRASHER AND SEPARATOR, which has been in use for 17 years.

All of which will be sold at the lowest manufacturers' terms by
June 1, 1854.—tf JOSEPH HALL, Rochester, N. Y.



KETCHUM'S IMPROVED MOWING MACHINE,

WITH ENTIRE CHANGE OF GEAR.

THE ONLY SUCCESSFUL MOWER NOW KNOWN.

KETCHUM'S *Improved* Machine, which we are building for the harvest of 1854, was thoroughly tested last season, and the advantages gained by our change of gear are in all respects as we designed, viz: *durability, convenience and ease of action.* The shafts now have bearings at both ends, which overcome all cramping and cutting away of boxing. A counter balance is attached to the crank shaft, which gives it a steady and uniform motion. Each Machine can be thrown out of gear; there is great convenience at each and every nut, all of them being *on the upper side of the frame*; oil cups are attached to all the bearings, which, by the use of a wad of cotton, will hold oil for a long time, as well as protect the bearings from dust, grit, &c.; the finger bar is lined with iron its full width, which protects it from wear.

These and various other additions for strength, durability, &c., make it the most simple and perfect agricultural implement in use. They weigh about 750 lbs. each, and can easily be carried in a one-horse wagon.

It requires not over ten minutes to get one ready for operation, there being but two bolts (besides the pole bolts) to be secured to have one ready for use. They will cut *all kinds of grass*, and operate well on uneven or rolling lands, or where there are dead furrows. This Machine took the highest award, with *special approbation*, at the World's Fair; it also received, during last season, one silver and four gold medals, and various other flattering and substantial testimonials of approval. We have spared neither pains nor money to make this machine deserving of public favor, and hope to be able the coming season to supply the great and increasing demand.

We take this occasion to caution farmers against buying *untried* Mowers; if they do (as was the case with many last year), they will incur loss, vexation and disappointment.

If any parts are wanted to repair any Machine we have sold, or may hereafter sell, they will be furnished and only manufacturers' cost for the same be charged.

☞ In all cases where Extras are wanted, be sure to give us *the number of your Machine.*

(WARRANTY:) That said Machines are capable of cutting and spreading, with one span of horses and driver, from ten to fifteen acres per day of *any kind of grass*, and do it as well as it is done with a scythe by the best of mowers.

The price of the Mower, with two sets of knives and extras, is $110 cash, in Buffalo, delivered on board of boat or cars free of charge.

Office and Shop, corner of Chicago street and Hamburgh Canal, near the Eastern R. R. Depot, Buffalo, N. Y.

HOWARD & CO.,
Manufacturers and Proprietors.

The Mower is also manufactured by RUGGLES, NOURSE, MASON & CO., at Worcester, Mass., for the New England States;

By SEYMOUR, MORGAN & CO., Brockport, N. Y., for Illinois, Iowa and Michigan;

By WARDER & BROKAW, Springfield, O., for Ohio and Kentucky.

J. RAPALJE & CO., Agents for Rochester and vicinity.
April 1, 1854.—3t

CIDER MILL AND PRESS.

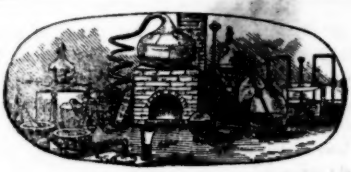
HICKOK'S Cider Mill and Press is considered now the best in use; simple in construction, portable (weighing but 275 lbs.,) and not liable to get out of order. Warranted to work well, and give satisfaction. The first premium of the American Institute and Crystal Palace has been awarded to this machine. Drawing and description will be sent by addressing the agents for the sale, in New York. Price of mill and press, $40.

LONGETT & GRIFFING,
May, 1854.—4t 25 Cliff street, near Fulton, New York.

CUTTER RIGHTS FOR SALE

WE will test our Hay, Stalk and Straw Cutter, patented November 8th, 1853, for speed, ease and durability, against any other in the United States. J. JONES & A. LYLE.

☞ For further information, address JONES & LYLE, Rochester, N. Y. February 1, 1854.—tf



AYER'S PILLS.

A NEW and singularly successful remedy for the cure of all Bilious diseases—Costiveness, Indigestion, Jaundice, Dropsy, Rheumatism, Fevers, Gout, Humors, Nervousness, Irritability, Inflammation, Headache, Pains in the Breast, Side, Back and Limbs, Female Complaints, &c., &c. Indeed, very few are the diseases in which a Purgative Medicine is not more or less required, and much sickness and suffering might be prevented, if a harmless but effectual Cathartic were more freely used. No person can feel well while a costive habit of body prevails; besides it soon generates serious and often fatal diseases, which might have been avoided by the timely and judicious use of a good purgative. This is alike true of Colds, Feverish symptoms, and Bilious derangements. They all tend to become or produce the deep seated and formidable distempers which load the hearses all over the land. Hence a reliable family physic is of the first importance to the public health, and this Pill has been perfected with consummate skill to meet that demand. An extensive trial of its virtues by Physicians, Professors, and Patients, has shown results surpassing any thing hitherto known of any medicine. Cures have been effected beyond belief, were they not substantiated by persons of such exalted position and character as to forbid the suspicion of untruth.

Among the many eminent gentlemen who have testified in favor of these Pills, we may mention:

Doct. A. A. HAYES, Analytical Chemist of Boston, and State Assayer of Massachusetts, whose high Professional character is endorsed by the—

Hon. EDWARD EVERETT, Senator of the United States.

ROBERT C. WINTHROP, Ex-Speaker of the House of Representatives.

ABBOTT LAWRENCE, Minister Plen. to England.

JOHN B. FITZPATRICK, Catholic Bishop of Boston; also,

Dr. J. R. CHILTON, Practical Chemist of New York City, endorsed by

Hon. W. L. MARCY, Secretary of State.

WM. B. ASTOR, the richest man in America.

S. LELAND & Co., Proprietors of the Metropolitan Hotel, and others.

Did space permit, we could give many hundred certificates from all parts where the Pills have been used, but evidence even more convincing than the experience of eminent public men, is found in their effects upon trial.

These Pills, the result of long investigation and study, are offered to the public as the best and most complete which the present state of medical science can afford. They are compounded not of the drugs themselves, but of the medicinal virtues only of Vegetable remedies extracted by chemical process in a state of purity, and combined together in such a manner as to insure the best results. This system of composition for medicines has been found in the Cherry Pectoral and Pills both, to produce a more efficient remedy than had hitherto been obtained by any process. The reason is perfectly obvious. While by the old mode of composition, every medicine is burdened with more or less of acrimonious and injurious qualities, by this each individual virtue only that is desired for the curative effect is present. All the inert and obnoxious qualities of each substance employed are left behind, the curative virtues only being retained. Hence it is self-evident the effects should prove, as they have proved, more purely remedial, and the Pills a surer, more powerful antidote to disease than any other medicine known to the world.

As it is frequently expedient that my medicine should be taken under the counsel of an attending Physician, and as he could not properly judge of a remedy without knowing its composition, I have supplied the accurate Formulæ by which both my Pectoral and Pills are made, to the whole body of Practitioners in the United States and British American Provinces. If, however, there should be any one who has not received them, they will be promptly forwarded by mail to his request.

Of all the Patent Medicines that are offered, how few would be taken if their composition was known! Their life consists in their mystery. I have no mysteries.

The composition of my preparations is laid open to all men, and all who are competent to judge on the subject freely acknowledge their convictions of their intrinsic merits. The Cherry Pectoral was pronounced by scientific men to be a wonderful medicine before its effects were known. Many eminent Physicians have declared the same thing of my Pills, and even more confidently, and are willing to certify that their anticipations were more than realised by their effects upon trial.

They operate by their powerful influence on the internal viscera to purify the blood and stimulate it into healthy action—remove the obstructions of the stomach, bowels, liver, and other organs of the body, restoring their irregular action to health, and by correcting, wherever they exist, such derangements as are the first origin of disease.

PREPARED BY JAMES C. AYER, PRACTICAL AND ANALYTICAL CHEMIST, LOWELL, MASS.

☞ Price 25 cents per Box. Five Boxes for $1.

☞ Sold by LANE & PANE, and W. PITKIN & SON, Rochester; DEMAREST & HOLMAN, Buffalo; and by all Druggists every where. May 1, 1854.—2t

GENESEE VALLEY NURSERIES.

A. FROST & CO. ROCHESTER, N. Y.,

OFFER to the public the coming spring one of the largest and finest stocks of Fruit and Ornamental Trees, Shrubs, Roses, &c., in the country. It in part consists of standard Apple, Pear, Cherry, Plum, Peach, Apricot, Nectarine and Quince Trees. Also, Dwarf and Pyramid Pears and Apples.

SMALL FRUITS.—Native and Foreign Grapes, old and new sorts of Currants, finest Lancashire Gooseberries, Strawberries, Raspberries, &c. &c.

The ORNAMENTAL DEPARTMENT comprises a great variety of Deciduous and Evergreen Trees, Shrubs, Vines and Creepers, which includes upward of of 300 varieties of the Rose.

BEDDING PLANTS.—150 varieties of Dahlias, a large collection of Verbenas, Petunias, Heliotropes, &c. &c.

Priced Catalogues of the above will be mailed to all applicants enclosing a postage stamp for each Catalogue wanted, viz:

No. 1.—Descriptive Catalogue of Fruits, Ornamental Trees, Shrubs, &c.

No. 2.—Descriptive Catalogue of Green House and Bedding Plants of every description, including every thing new which may be introduced up to its season, will be published in March each year.

No. 3.—Wholesale Catalogue, published in September.

February 1, 1854.—tf

HOME PROTECTION.

TEMPEST INSURANCE COMPANY.

CAPITAL, $250,000.

Organized December 24, 1852—Chartered March 1, 1853.

HOMES ONLY INSURED BY THIS COMPANY.

No one Risk taken for more than $3000.

HOME OFFICE, MERIDIAN, N. Y.

Many distinguished persons have insured their homes to the amount of $3000 each in this Company, among whom are Ex-President VAN BUREN, Kinderhook; Ex-Governor SEWARD, Auburn; DANIEL S. DICKINSON, Ex U. S. Senator, Binghampton.

To whom it may concern: AUBURN, May 16th, 1853.

We are personally acquainted with many of the Officers and Directors of the Tempest Insurance Company, located at Meridian, Cayuga county, N. Y. In our opinion they are among the most wealthy and substantial class of farmers in this county.

J. N. STARIN,
ELMORE P. ROSS,
THOMAS Y. HOWE, Jr.

The above gentlemen will be recognized as the Cashier of Cayuga County Bank, Auburn; Postmaster, Auburn; and Ex-Member of Congress, Auburn, Cayuga county, N. Y.

February 1, 1854—1y

VIRGINIA LAND FOR SALE.

A VALUABLE tract of land for sale in Richmond and Westmoreland counties, Virginia, containing 2700 acres—well timbered with ship and stave timber, well watered, and with vast beds of rich shell marl, enough to lime many such estates. The tract is about three miles from navigation, in a healthy location, and in a good neighborhood. It can be bought for the low sum of $10 per acre. The soil is good, and easily improved, with the means on it to put it in a high state of cultivation; about 1500 acres cleared; buildings small. It will make six or eight farms. I will make a deduction if sold without division. My address is 45 Broadway, Baltimore, Md. Persons wishing to purchase will call on or address me, and I will give any further information. H. BEST.

March 1, 1854.—4t

FRUIT SCIONS FOR 1854.

THE subscriber will furnish both Apple and Pear Scions for this season's grafting, of all the standard kinds, including those heretofore advertised by him in the Farmer. Price, one dollar per hundred for Apple, and three shillings per dozen for Pear Scions. In large quantities they would be sold less. *They can be sent by mail or express* to any portion of our country. Orders, enclosing the money, will be promptly filled. JAMES H. WATTS.

Rochester, February 1, 1854.—tf

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ONE DOLLAR A YEAR! FIFTY CENTS A VOLUME!

SPLENDID ENGRAVINGS!!

THE PEOPLE'S JOURNAL,

AN ILLUSTRATED RECORD OF AGRICULTURE, MECHANICS, SCIENCE, AND USEFUL KNOWLEDGE.

EVERY number contains 32 *large pages of letter-press, beautifully printed on fine paper, and PROFUSELY ILLUSTRATED with ENGRAVINGS*, forming at the end of each year TWO SPLENDID VOLUMES, comprising *four hundred pages*, and illustrated with about FIVE HUNDRED ELEGANT ENGRAVINGS, the entire cost being only ONE DOLLAR.

The PEOPLE'S JOURNAL was commenced in November, 1853, and has already attained a large circulation. The November number contained 40 engravings, the December number 72 engravings, the January number 47 engravings, and the February issue has 61 engravings, making in all 220 illustrations, although only four numbers have been published. These relate to Science, Art, Mechanics, Agriculture, and Useful Knowledge, in accordance with the general plan of the work. No publication of the kind has ever been produced with such magnificence or at so cheap a price. It is admired and taken by every one who sees it.

TERMS.—To Subscribers—*One Dollar a Year, or Fifty Cents for Six Months.* Subscriptions may be sent *by* mail in coin, post office stamps, or bills, at the risk of the publisher. The name of the Post Office, County, and State, where the paper is desired to be sent, should be *plainly written*. Address, postage paid,

ALFRED E. BEACH,
No. 86 Nassau Street, New York City,
Editor of the People's Journal.

A LIBERAL DISCOUNT TO POST MASTERS AND AGENTS.

Single copies 12½ cents. Specimens sent on receipt of four postage stamps.

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